

Appendix F Noise Monitoring Data

File Translated: P:\Projects - All Users\100030000+\100032641 East LA 3rd St SP EIR\Data\Noise\Noise Measurement\Location
Model/Serial Number: 814 / A0174
Firmware/Software Revs: 1.026 / 1.07
Name: PBS&J/EIP
Descr1: 12301 Wilshire Blvd., Ste. 430
Descr2: Los Angeles, CA 90025
Setup/Setup Descr: 15minute.slm / 15 Minute
Location: SE Corner of Ditman/5th Street
Note1: 3708 5th Street (Residential)
Note2: Traffic on 5th/Traffic on 60 Freeway
Octave Filters: None

Overall Measurement

Start Time: 04-Sep-2013 11:00:38
Elapsed Time: 00:15:00.0
Leq: 55.5 dBA
SEL: 85.0 dBA
Dose: 0.00 %
Proj. Dose: 0.00 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Current Measurement

Start Time: 04-Sep-2013 11:00:38
Elapsed Time: 00:15:00.0
Leq: 55.5 dBA
SEL: 85.0 dBA
Dose: 0.00 %
Proj. Dose: 0.00 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Min: 44.3 dBA 04-Sep-2013 11:05:32
Max: 70.9 dBA 04-Sep-2013 11:09:35
Peak-1: 96.9 dBF 04-Sep-2013 11:04:31
Peak-2: 93.2 dBA 04-Sep-2013 11:08:17

Min: 44.3 dBA 04-Sep-2013 11:05:32
Max: 70.9 dBA 04-Sep-2013 11:09:35
Peak-1: 96.9 dBF 04-Sep-2013 11:04:31
Peak-2: 93.2 dBA 04-Sep-2013 11:08:17

L 1.67	66.0 dBA	L 50.00	49.6 dBA
L 8.33	58.7 dBA	L 66.67	48.6 dBA
L 33.33	51.7 dBA	L 90.00	46.8 dBA

Detector: Slow

Weighting: A

SPL Exceedance Level 1: 115.00 Exceeded: 0 times
SPL Exceedance level 2: 120 Exceeded: 0 times
Peak-1 Exceedance Level: 140 Exceeded: 0 times
Peak-2 Exceedance Level: 140 Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

Calibrated: 01-Jan-2001 11:56:00
Checked: 04-Sep-2013 10:58:48
Calibrator LD 0504
Cal Records Count: 0

Offset: 8.8 dB
Level: 113.70 dB
Level: 114.0 dB

Interval Records: Enabled
History Records: Disabled

Number Interval Records: 1
Number History Records: 18

814 Memory: 524288 bytes
Free Memory: 439447 bytes 83.82% free

Battery Level: 96% Source: INT

File Translated: P:\Projects - All Users\100030000+\100032641 East LA 3rd St SP EIR\Data\Noise\Noise Measurement\Location
Model/Serial Number: 814 / A0174
Firmware/Software Revs: 1.026 / 1.07
Name: PBS&J/EIP
Descr1: 12301 Wilshire Blvd., Ste. 430
Descr2: Los Angeles, CA 90025
Setup/Setup Descr: 15minute.slm / 15 Minute
Location: N. side of 3rd, east of Ditman
Note1: 3715 3rd St (Residential)
Note2: 11:31_LRT/11:33_LRT/11:43_LRT
Octave Filters: None

Overall Measurement

Start Time: 04-Sep-2013 11:27:07
Elapsed Time: 00:15:00.0
Leq: 67.0 dBA
SEL: 96.5 dBA
Dose: 0.00 %
Proj. Dose: 0.49 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Current Measurement

Start Time: 04-Sep-2013 11:27:07
Elapsed Time: 00:15:00.0
Leq: 67.0 dBA
SEL: 96.5 dBA
Dose: 0.00 %
Proj. Dose: 0.49 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Min: 49.2 dBA 04-Sep-2013 11:41:54
Max: 82.1 dBA 04-Sep-2013 11:41:00
Peak-1: 105.0 dBF 04-Sep-2013 11:40:59
Peak-2: 99.2 dBA 04-Sep-2013 11:32:24

Min: 49.2 dBA 04-Sep-2013 11:41:54
Max: 82.1 dBA 04-Sep-2013 11:41:00
Peak-1: 105.0 dBF 04-Sep-2013 11:40:59
Peak-2: 99.2 dBA 04-Sep-2013 11:32:24

L 1.67	76.8 dBA	L 50.00	61.0 dBA
L 8.33	71.4 dBA	L 66.67	57.6 dBA
L 33.33	64.3 dBA	L 90.00	51.7 dBA

Detector: Slow

Weighting: A

SPL Exceedance Level 1: 115.00 Exceeded: 0 times
SPL Exceedance level 2: 120 Exceeded: 0 times
Peak-1 Exceedance Level: 140 Exceeded: 0 times
Peak-2 Exceedance Level: 140 Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

Calibrated: 01-Jan-2001 11:56:00
Checked: 04-Sep-2013 10:58:48
Calibrator LD 0504
Cal Records Count: 0

Offset: 8.8 dB
Level: 113.70 dB
Level: 114.0 dB

Interval Records: Enabled
History Records: Disabled

Number Interval Records: 1
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Model/Serial Number: 814 / A0174
Firmware/Software Revs: 1.026 / 1.07
Name: PBS&J/EIP
Descr1: 12301 Wilshire Blvd., Ste. 430
Descr2: Los Angeles, CA 90025
Setup/Setup Descr: 15minute.slm / 15 Minute
Location: N side of E. Cesar Chavez, east of Rowan
Note1: 3617 E. Cesar Chavez Ave (Commercial)
Note2: traffic on E. Cesar Chavez Ave
Octave Filters: None

Overall Measurement

Start Time: 04-Sep-2013 11:56:17
Elapsed Time: 00:15:00.0
Leq: 67.9 dBA
SEL: 97.4 dBA
Dose: 0.00 %
Proj. Dose: 0.61 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Current Measurement

Start Time: 04-Sep-2013 11:56:17
Elapsed Time: 00:15:00.0
Leq: 67.9 dBA
SEL: 97.4 dBA
Dose: 0.00 %
Proj. Dose: 0.61 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Min: 54.6 dBA 04-Sep-2013 12:00:27
Max: 83.1 dBA 04-Sep-2013 12:03:33
Peak-1: 105.5 dBF 04-Sep-2013 12:03:24
Peak-2: 97.8 dBA 04-Sep-2013 12:03:33

Min: 54.6 dBA 04-Sep-2013 12:00:27
Max: 83.1 dBA 04-Sep-2013 12:03:33
Peak-1: 105.5 dBF 04-Sep-2013 12:03:24
Peak-2: 97.8 dBA 04-Sep-2013 12:03:33

L 1.67	75.8 dBA	L 50.00	65.1 dBA
L 8.33	71.1 dBA	L 66.67	62.7 dBA
L 33.33	67.3 dBA	L 90.00	58.5 dBA

Detector: Slow

Weighting: A

SPL Exceedance Level 1: 115.00 Exceeded: 0 times
SPL Exceedance level 2: 120 Exceeded: 0 times
Peak-1 Exceedance Level: 140 Exceeded: 0 times
Peak-2 Exceedance Level: 140 Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

Calibrated: 01-Jan-2001 11:56:00
Checked: 04-Sep-2013 10:58:48
Calibrator LD 0504
Cal Records Count: 0

Offset: 8.8 dB
Level: 113.70 dB
Level: 114.0 dB

Interval Records: Enabled
History Records: Disabled

Number Interval Records: 1
Number History Records: 18

814 Memory: 524288 bytes
Free Memory: 439447 bytes 83.82% free

Battery Level: 95% Source: INT

File Translated: P:\Projects - All Users\100030000+\100032641 East LA 3rd St SP EIR\Data\Noise\Noise Measurement\Location
Model/Serial Number: 814 / A0174
Firmware/Software Revs: 1.026 / 1.07
Name: PBS&J/EIP
Descr1: 12301 Wilshire Blvd., Ste. 430
Descr2: Los Angeles, CA 90025
Setup/Setup Descr: 15minute.slm / 15 Minute
Location: SW corner of Gage and Michigan
Note1: 171 N. Gage Ave (Residential)
Note2: Traffic on Gage
Octave Filters: None

Overall Measurement

Start Time: 04-Sep-2013 12:23:58
Elapsed Time: 00:15:00.0
Leq: 64.1 dBA
SEL: 93.6 dBA
Dose: 0.00 %
Proj. Dose: 0.25 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Current Measurement

Start Time: 04-Sep-2013 12:23:58
Elapsed Time: 00:15:00.0
Leq: 64.1 dBA
SEL: 93.6 dBA
Dose: 0.00 %
Proj. Dose: 0.25 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Min: 43.1 dBA 04-Sep-2013 12:26:49
Max: 81.6 dBA 04-Sep-2013 12:37:49
Peak-1: 104.3 dBF 04-Sep-2013 12:37:51
Peak-2: 94.5 dBA 04-Sep-2013 12:37:48

Min: 43.1 dBA 04-Sep-2013 12:26:49
Max: 81.6 dBA 04-Sep-2013 12:37:49
Peak-1: 104.3 dBF 04-Sep-2013 12:37:51
Peak-2: 94.5 dBA 04-Sep-2013 12:37:48

L 1.67	72.6 dBA	L 50.00	59.4 dBA
L 8.33	67.8 dBA	L 66.67	54.3 dBA
L 33.33	62.8 dBA	L 90.00	47.5 dBA

Detector: Slow

Weighting: A

SPL Exceedance Level 1: 115.00 Exceeded: 0 times
SPL Exceedance level 2: 120 Exceeded: 0 times
Peak-1 Exceedance Level: 140 Exceeded: 0 times
Peak-2 Exceedance Level: 140 Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

Calibrated: 01-Jan-2001 11:56:00
Checked: 04-Sep-2013 10:58:48
Calibrator LD 0504
Cal Records Count: 0

Offset: 8.8 dB
Level: 113.70 dB
Level: 114.0 dB

Interval Records: Enabled
History Records: Disabled

Number Interval Records: 1
Number History Records: 18

814 Memory: 524288 bytes
Free Memory: 439447 bytes 83.82% free

Battery Level: 95% Source: INT

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Model/Serial Number: 814 / A0174
Firmware/Software Revs: 1.026 / 1.07
Name: PBS&J/EIP
Descr1: 12301 Wilshire Blvd., Ste. 430
Descr2: Los Angeles, CA 90025
Setup/Setup Descr: 15minute.slm / 15 Minute
Location: S side E. 3rd, east of S. Eastern Ave
Note1: 4300 3rd St (commercial)
Note2: Traffic on 3rd St/Traffic on Eastern
Octave Filters: None

Overall Measurement

Start Time: 04-Sep-2013 13:44:12
Elapsed Time: 00:15:00.0
Leq: 68.4 dBA
SEL: 98.0 dBA
Dose: 0.00 %
Proj. Dose: 0.69 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Current Measurement

Start Time: 04-Sep-2013 13:44:12
Elapsed Time: 00:15:00.0
Leq: 68.4 dBA
SEL: 98.0 dBA
Dose: 0.00 %
Proj. Dose: 0.69 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Min: 54.9 dBA 04-Sep-2013 13:44:12
Max: 83.1 dBA 04-Sep-2013 13:49:23
Peak-1: 106.0 dBF 04-Sep-2013 13:58:16
Peak-2: 97.0 dBA 04-Sep-2013 13:49:22

Min: 54.9 dBA 04-Sep-2013 13:44:12
Max: 83.1 dBA 04-Sep-2013 13:49:23
Peak-1: 106.0 dBF 04-Sep-2013 13:58:16
Peak-2: 97.0 dBA 04-Sep-2013 13:49:22

L 1.67 77.2 dBA L 50.00 62.5 dBA
L 8.33 72.7 dBA L 66.67 60.5 dBA
L 33.33 66.3 dBA L 90.00 57.9 dBA

Detector: Slow

Weighting: A

SPL Exceedance Level 1: 115.00 Exceeded: 0 times
SPL Exceedance level 2: 120 Exceeded: 0 times
Peak-1 Exceedance Level: 140 Exceeded: 0 times
Peak-2 Exceedance Level: 140 Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

Calibrated: 01-Jan-2001 11:56:00
Checked: 04-Sep-2013 10:58:48
Calibrator LD 0504
Cal Records Count: 0

Offset: 8.8 dB
Level: 113.70 dB
Level: 114.0 dB

Interval Records: Enabled
History Records: Disabled

Number Interval Records: 1
Number History Records: 18

814 Memory: 524288 bytes
Free Memory: 439447 bytes 83.82% free

Battery Level: 95% Source: INT

File Translated: P:\Projects - All Users\100030000+\100032641 East LA 3rd St SP EIR\Data\Noise\Noise Measurement\Location
Model/Serial Number: 814 / A0174
Firmware/Software Revs: 1.026 / 1.07
Name: PBS&J/EIP
Descr1: 12301 Wilshire Blvd., Ste. 430
Descr2: Los Angeles, CA 90025
Setup/Setup Descr: 15minute.slm / 15 Minute
Location: E side of Fraser, intersection with Eagle
Note1: Front of Garfield HS
Note2: Traffic on Fraser/Traffic on Eagle
Octave Filters: None

Overall Measurement

Start Time: 04-Sep-2013 14:06:55
Elapsed Time: 00:15:00.0
Leq: 60.6 dBA
SEL: 90.1 dBA
Dose: 0.00 %
Proj. Dose: 0.11 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Current Measurement

Start Time: 04-Sep-2013 14:06:55
Elapsed Time: 00:15:00.0
Leq: 60.6 dBA
SEL: 90.1 dBA
Dose: 0.00 %
Proj. Dose: 0.11 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Min: 48.2 dBA 04-Sep-2013 14:10:42
Max: 85.0 dBA 04-Sep-2013 14:18:47
Peak-1: 105.5 dBF 04-Sep-2013 14:09:32
Peak-2: 102.6 dBA 04-Sep-2013 14:09:32

Min: 48.2 dBA 04-Sep-2013 14:10:42
Max: 85.0 dBA 04-Sep-2013 14:18:47
Peak-1: 105.5 dBF 04-Sep-2013 14:09:32
Peak-2: 102.6 dBA 04-Sep-2013 14:09:32

L 1.67 67.8 dBA L 50.00 52.2 dBA
L 8.33 60.8 dBA L 66.67 50.8 dBA
L 33.33 54.2 dBA L 90.00 49.8 dBA

Detector: Slow

Weighting: A

SPL Exceedance Level 1: 115.00 Exceeded: 0 times
SPL Exceedance level 2: 120 Exceeded: 0 times
Peak-1 Exceedance Level: 140 Exceeded: 0 times
Peak-2 Exceedance Level: 140 Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

Calibrated: 01-Jan-2001 11:56:00
Checked: 04-Sep-2013 10:58:48
Calibrator LD 0504
Cal Records Count: 0

Offset: 8.8 dB
Level: 113.70 dB
Level: 114.0 dB

Interval Records: Enabled
History Records: Disabled

Number Interval Records: 1
Number History Records: 18

814 Memory: 524288 bytes
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File Translated: P:\Projects - All Users\100030000+\100032641 East LA 3rd St SP EIR\Data\Noise\Noise Measurement\Location
Model/Serial Number: 814 / A0174
Firmware/Software Revs: 1.026 / 1.07
Name: PBS&J/EIP
Descr1: 12301 Wilshire Blvd., Ste. 430
Descr2: Los Angeles, CA 90025
Setup/Setup Descr: 15minute.slm / 15 Minute
Location: SE corner of Atlantic and Beverly
Note1: 300 S. Atlantic (76 Gas Station)
Note2: Traffic on Atlantic/Traffic on Beverly
Octave Filters: None

Overall Measurement

Start Time: 04-Sep-2013 14:30:27
Elapsed Time: 00:15:00.0
Leq: 67.7 dBA
SEL: 97.2 dBA
Dose: 0.00 %
Proj. Dose: 0.58 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Current Measurement

Start Time: 04-Sep-2013 14:30:27
Elapsed Time: 00:15:00.0
Leq: 67.7 dBA
SEL: 97.2 dBA
Dose: 0.00 %
Proj. Dose: 0.58 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Min: 57.4 dBA 04-Sep-2013 14:35:50
Max: 77.9 dBA 04-Sep-2013 14:41:43
Peak-1: 106.2 dBF 04-Sep-2013 14:32:12
Peak-2: 99.6 dBA 04-Sep-2013 14:32:12

Min: 57.4 dBA 04-Sep-2013 14:35:50
Max: 77.9 dBA 04-Sep-2013 14:41:43
Peak-1: 106.2 dBF 04-Sep-2013 14:32:12
Peak-2: 99.6 dBA 04-Sep-2013 14:32:12

L 1.67	74.5 dBA	L 50.00	66.2 dBA
L 8.33	70.6 dBA	L 66.67	65.2 dBA
L 33.33	67.3 dBA	L 90.00	62.8 dBA

Detector: Slow

Weighting: A

SPL Exceedance Level 1: 115.00 Exceeded: 0 times
SPL Exceedance level 2: 120 Exceeded: 0 times
Peak-1 Exceedance Level: 140 Exceeded: 0 times
Peak-2 Exceedance Level: 140 Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

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Model/Serial Number: 814 / A0174
Firmware/Software Revs: 1.026 / 1.07
Name: PBS&J/EIP
Descr1: 12301 Wilshire Blvd., Ste. 430
Descr2: Los Angeles, CA 90025
Setup/Setup Descr: 15minute.slm / 15 Minute
Location: NE corner of 1st St and Mednik Ave
Note1: Belvedere Park
Note2: Traffic on 1st/Traffic on Medwick
Octave Filters: None

Overall Measurement

Start Time: 04-Sep-2013 14:54:42
Elapsed Time: 00:15:00.0
Leq: 66.6 dBA
SEL: 96.2 dBA
Dose: 0.00 %
Proj. Dose: 0.46 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Current Measurement

Start Time: 04-Sep-2013 14:54:42
Elapsed Time: 00:15:00.0
Leq: 66.6 dBA
SEL: 96.2 dBA
Dose: 0.00 %
Proj. Dose: 0.46 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Min: 61.4 dBA 04-Sep-2013 14:57:41
Max: 79.3 dBA 04-Sep-2013 14:56:17
Peak-1: 100.4 dBF 04-Sep-2013 15:04:33
Peak-2: 95.7 dBA 04-Sep-2013 14:57:42

Min: 61.4 dBA 04-Sep-2013 14:57:41
Max: 79.3 dBA 04-Sep-2013 14:56:17
Peak-1: 100.4 dBF 04-Sep-2013 15:04:33
Peak-2: 95.7 dBA 04-Sep-2013 14:57:42

L 1.67	72.2 dBA	L 50.00	65.5 dBA
L 8.33	68.7 dBA	L 66.67	64.7 dBA
L 33.33	66.3 dBA	L 90.00	63.0 dBA

Detector: Slow

Weighting: A

SPL Exceedance Level 1: 115.00 Exceeded: 0 times
SPL Exceedance level 2: 120 Exceeded: 0 times
Peak-1 Exceedance Level: 140 Exceeded: 0 times
Peak-2 Exceedance Level: 140 Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

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Firmware/Software Revs: 1.026 / 1.07
Name: PBS&J/EIP
Descr1: 12301 Wilshire Blvd., Ste. 430
Descr2: Los Angeles, CA 90025
Setup/Setup Descr: 15minute.slm / 15 Minute
Location: N side E CC/ East of Ford
Note1: 4533 E Cesar Chavez (Commercial)
Note2: Traffic on CC/Traffic on Ford & 710 (3:32 Fire Truck)
Octave Filters: None

Overall Measurement

Start Time: 04-Sep-2013 15:18:04
Elapsed Time: 00:15:00.0
Leq: 87.0 dBA
SEL: 116.5 dBA
Dose: 1.56 %
Proj. Dose: 50.12 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Current Measurement

Start Time: 04-Sep-2013 15:18:04
Elapsed Time: 00:15:00.0
Leq: 87.0 dBA
SEL: 116.5 dBA
Dose: 1.56 %
Proj. Dose: 50.12 %
Threshold: 0 dB
Criterion: 90 dB
Exchange Rate: 3 dB

Min: 57.5 dBA 04-Sep-2013 15:18:34
Max: 113.9 dBA 04-Sep-2013 15:29:10
Peak-1: 124.6 dBF 04-Sep-2013 15:29:10
Peak-2: 124.5 dBA 04-Sep-2013 15:29:10

Min: 57.5 dBA 04-Sep-2013 15:18:34
Max: 113.9 dBA 04-Sep-2013 15:29:10
Peak-1: 124.6 dBF 04-Sep-2013 15:29:10
Peak-2: 124.5 dBA 04-Sep-2013 15:29:10

L 1.67	81.8 dBA	L 50.00	66.6 dBA
L 8.33	72.4 dBA	L 66.67	64.6 dBA
L 33.33	68.3 dBA	L 90.00	60.9 dBA

Detector: Slow

Weighting: A

SPL Exceedance Level 1: 115.00 Exceeded: 0 times
SPL Exceedance level 2: 120 Exceeded: 0 times
Peak-1 Exceedance Level: 140 Exceeded: 0 times
Peak-2 Exceedance Level: 140 Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

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814 Memory: 524288 bytes
Free Memory: 439447 bytes 83.82% free

Battery Level: 94% Source: INT

TRAFFIC NOISE LEVELS AND NOISE CONTOURS

Project Number: 491302
Project Name: Palomar Community College

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Source of Traffic Volumes: Linscott, Law, and Greenspan, December 2008
Community Noise Descriptor: L_{dn}: _____ CNEL: X

Assumed 24-Hour Traffic Distribution:

	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

"-" = contour is located within the roadway right-of-way.
Distance is from the centerline of the roadway segment to the receptor location.

Analysis Condition Roadway, Segment	Lanes	Median Width	ADT Volume	Design Speed (mph)	Alpha Factor	Vehicle Mix		Distance from Centerline of Roadway					
						Medium Trucks	Heavy Trucks	CNEL at 50 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL	
Cesar Chavez Avenue													
Rowan Street to Gage Ave, existing	2	12	15,660	30	0.5	3.0%	2.0%	66.6	-	64	138	298	
Rowan Street to Gage Ave, future (2035)	2	12	18,360	30	0.5	3.0%	2.0%	67.3	-	71	154	331	
Rowan Street to Gage Ave, future + project	2	12	31,410	30	0.5	3.0%	2.0%	69.6	47	102	220	473	
Cesar Chavez Avenue													
Gage Ave to Hazard Ave, existing	4	0	14,900	30	0.5	3.0%	2.0%	66.7	-	65	139	300	
Gage Ave to Hazard Ave, future (2035)	4	0	17,470	30	0.5	3.0%	2.0%	67.4	-	72	155	333	
Gage Ave to Hazard Ave, future + project	4	0	32,710	30	0.5	3.0%	2.0%	70.1	51	109	235	506	
Cesar Chavez Avenue													
Hazard Ave to Eastern Ave, existing	4	0	15,990	30	0.5	3.0%	2.0%	67.0	-	68	146	314	
Hazard Ave to Eastern Ave, future (2035)	4	0	18,220	30	0.5	3.0%	2.0%	67.5	-	74	159	343	
Hazard Ave to Eastern Ave, future + project	4	0	35,580	30	0.5	3.0%	2.0%	70.4	54	115	248	535	
Cesar Chavez Avenue													
Eastern Ave to Humphreys Ave, existing	4	0	15,120	30	0.5	3.0%	2.0%	66.7	-	65	140	303	
Eastern Ave to Humphreys Ave, future (2035)	4	0	17,740	30	0.5	3.0%	2.0%	67.4	-	73	156	337	
Eastern Ave to Humphreys Ave, future + project	4	0	33,110	30	0.5	3.0%	2.0%	70.1	51	110	237	510	
Cesar Chavez Avenue													
Humphreys Ave to Ford Blvd, existing	4	0	16,090	30	0.5	3.0%	2.0%	67.0	-	68	146	315	
Humphreys Ave to Ford Blvd, future (2035)	4	0	18,880	30	0.5	3.0%	2.0%	67.7	-	76	163	351	
Humphreys Ave to Ford Blvd, future + project	4	0	34,420	30	0.5	3.0%	2.0%	70.3	52	113	243	524	
Cesar Chavez Avenue													
Ford Blvd to McDonnell Ave, existing	4	0	13,520	30	0.5	3.0%	2.0%	66.2	-	61	130	281	
Ford Blvd to McDonnell Ave, future (2035)	4	0	15,860	30	0.5	3.0%	2.0%	66.9	-	67	145	312	
Ford Blvd to McDonnell Ave, future + project	4	0	28,000	30	0.5	3.0%	2.0%	69.4	46	98	212	456	
Cesar Chavez Avenue													
McDonnell Ave to Mednik Ave, existing	4	0	13,720	30	0.5	3.0%	2.0%	66.3	-	61	132	284	
McDonnell Ave to Mednik Ave, future (2035)	4	0	16,090	30	0.5	3.0%	2.0%	67.0	-	68	146	315	
McDonnell Ave to Mednik Ave, future + project	4	0	26,310	30	0.5	3.0%	2.0%	69.1	-	94	203	438	
1st Street													
Rowan Street to Gage Ave, existing	4	0	10,380	30	0.5	3.0%	2.0%	65.1	-	51	109	235	
Rowan Street to Gage Ave, future (2035)	4	0	12,180	30	0.5	3.0%	2.0%	65.8	-	56	122	262	
Rowan Street to Gage Ave, future + project	4	0	22,770	30	0.5	3.0%	2.0%	68.5	-	86	185	398	
1st Street													
Sunol Dr to Eastern Ave, existing	4	0	11,090	35	0.5	3.0%	2.0%	65.9	-	57	123	266	
Sunol Dr to Eastern Ave, future	4	0	13,020	35	0.5	3.0%	2.0%	66.6	-	64	137	296	
Sunol Dr to Eastern Ave, future + project	4	0	23,490	35	0.5	3.0%	2.0%	69.1	-	94	203	438	
3rd Street													
Indiana St to Rowan Ave, existing	4	20	9,550	35	0.5	2.0%	1.0%	64.6	-	-	102	220	
Indiana St to Rowan Ave, future (2035)	4	20	11,200	35	0.5	2.0%	1.0%	65.3	-	-	113	244	
Indiana St to Rowan Ave, future + project	4	20	25,980	35	0.5	2.0%	1.0%	69.0	-	92	199	428	
3rd Street													
Rowan Street to Gage Ave, existing	2	25	10,180	35	0.5	2.0%	1.0%	64.2	-	-	95	204	
Rowan Street to Gage Ave, future (2035)	2	25	11,940	35	0.5	2.0%	1.0%	64.9	-	49	106	227	
Rowan Street to Gage Ave, future + project	2	25	32,580	35	0.5	2.0%	1.0%	69.2	-	96	206	444	
3rd Street													
Gage Ave to SR-60 WB Ramps, existing	2	25	13,140	35	0.5	2.0%	1.0%	65.3	-	52	113	242	
Gage Ave to SR-60 WB Ramps, future (2035)	2	25	15,410	35	0.5	2.0%	1.0%	66.0	-	58	125	270	
Gage Ave to SR-60 WB Ramps, future + project	2	25	39,210	35	0.5	2.0%	1.0%	70.0	50	108	233	502	
3rd Street													
SR-60 WE Ramps to Downey Rd, existing	4	20	12,360	35	0.5	2.0%	1.0%	65.8	-	56	121	261	
SR-60 WE Ramps to Downey Rd, future (2035)	4	20	14,500	35	0.5	2.0%	1.0%	66.5	-	63	135	290	
SR-60 WE Ramps to Downey Rd, future + project	4	20	38,170	35	0.5	2.0%	1.0%	70.7	55	119	257	554	
3rd Street													
Downey Road to Eastern Ave, existing	3	25	12,290	35	0.5	2.0%	1.0%	65.4	-	53	115	247	
Downey Road to Eastern Ave, future (2035)	3	25	14,410	35	0.5	2.0%	1.0%	66.1	-	59	128	275	
Downey Road to Eastern Ave, future + project	3	25	38,460	35	0.5	2.0%	1.0%	70.4	53	114	245	529	
3rd Street													
Eastern Ave to Ford Blvd, existing	3	25	14,670	35	0.5	2.0%	1.0%	66.2	-	60	129	278	
Eastern Ave to Ford Blvd, future (2035)	3	25	17,220	35	0.5	2.0%	1.0%	66.9	-	67	144	309	
Eastern Ave to Ford Blvd, future + project	3	25	39,340	35	0.5	2.0%	1.0%	70.5	54	116	249	537	

3rd Street												
Ford Blvd to McDonnell Ave, existing	2	25	11,050	35	0.5	2.0%	1.0%	64.5	-	47	100	216
Ford Blvd to McDonnell Ave, future (2035)	2	25	12,960	35	0.5	2.0%	1.0%	65.2	-	52	111	240
Ford Blvd to McDonnell Ave, future + project	2	25	35,110	35	0.5	2.0%	1.0%	69.6	47	101	217	467
3rd Street												
McDonnell Ave to Mednik Ave, existing	2	25	9,890	35	0.5	2.0%	1.0%	64.1	-	-	93	201
McDonnell Ave to Mednik Ave, future (2035)	2	25	11,610	35	0.5	2.0%	1.0%	64.7	-	48	104	223
McDonnell Ave to Mednik Ave, future + project	2	25	31,070	35	0.5	2.0%	1.0%	69.0	-	93	200	430
3rd Street												
Mednick Ave to La Verne Ave, existing	2	25	11,320	35	0.5	2.0%	1.0%	64.6	-	47	102	219
Mednick Ave to La Verne Ave, future (2035)	2	25	13,270	35	0.5	2.0%	1.0%	65.3	-	53	113	244
Mednick Ave to La Verne Ave, future + project	2	25	33,250	35	0.5	2.0%	1.0%	69.3	45	97	209	450
3rd Street												
La Verne Ave to Woods Ave, existing	3	25	12,650	35	0.5	2.0%	1.0%	65.5	-	54	117	252
La Verne Ave to Woods Ave, future (2035)	3	25	14,910	35	0.5	2.0%	1.0%	66.2	-	61	130	281
La Verne Ave to Woods Ave, future + project	3	25	34,460	35	0.5	2.0%	1.0%	69.9	-	106	228	491
SR-60												
Indiana Street to 3rd Street/ Downey Road, existing	10	24	205,000	65	0.5	1.9%	1.9%	80.8	523	1,127	2,428	5,230
Indiana Street to 3rd Street/ Downey Road, future (2035)	10	24	226,525	65	0.5	1.9%	1.9%	81.2	559	1,204	2,595	5,590
SR-60												
3rd Street/ Downey Road to I-710 Junction, existing	8	24	210,000	65	0.5	3.4%	3.4%	81.1	553	1,192	2,567	5,531
3rd Street/ Downey Road to I-710 Junction, future (2035)	8	24	232,050	65	0.5	3.4%	3.4%	81.6	591	1,274	2,744	5,912
SR-60												
I-710 Junction to Atlantic Boulevard, existing	10	24	243,000	65	0.5	3.4%	3.4%	82.5	683	1,472	3,171	6,831
I-710 Junction to Atlantic Boulevard, future (2035)	10	24	268,515	65	0.5	3.4%	3.4%	83.0	730	1,573	3,389	7,301
SR-60												
East of Atlantic Boulevard, existing	10	24	235,000	65	0.5	3.4%	3.4%	82.4	668	1,439	3,101	6,681
East of Atlantic Boulevard, future (2035)	10	24	259,675	65	0.5	3.4%	3.4%	82.8	714	1,538	3,314	7,140
I-710												
North of SR-60 Junction, existing	8	24	127,000	65	0.5	2.7%	3.7%	78.9	390	840	1,809	3,897
North of SR-60 Junction, future (2035)	8	24	140,335	65	0.5	2.7%	3.7%	79.3	417	897	1,933	4,165
I-710												
North of SR-60 Junction, existing	8	24	189,000	65	0.5	2.5%	2.4%	80.1	469	1,011	2,178	4,692
North of SR-60 Junction, future (2035)	8	24	208,845	65	0.5	2.5%	2.4%	80.5	501	1,080	2,328	5,015

Appendix G Traffic Impact Analysis

Traffic Impact Analysis for the East Los Angeles 3rd Street Specific Plan

April 18, 2014

DRAFT

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Executive Summary

SCOPING COORDINATION AND STUDY AREA

- The scope of the traffic impact study conducted for the East Los Angeles Specific Plan update was developed during coordination efforts with the Traffic and Lighting Division of the Los Angeles County Department of Public Works.
- Based on the commercial corridors where land uses would primarily change or intensify under the Specific Plan, and also based on the locations of major roadway intersections, a study area was developed.
- The study area includes 36 intersections, of which 30 intersections are located in the County of Los Angeles, three intersections are located on the border of the County of Los Angeles and City of Los Angeles, and three intersections are located entirely within the City of Los Angeles

PROJECT ASSUMPTIONS

- Land use data for existing conditions, and proposed conditions under the Specific Plan land use plan, generated by County Regional Planning, were used to define the potential incremental change in area land uses for this impact analysis that would occur due to the Project.
- The study area analysis sub-areas are based on traffic analysis zones (TAZs), defined as part of the 1990 Census. These areas were customized to analyze separately the commercial land use corridors and the adjacent residential neighborhoods.

LEVEL OF SERVICE ANALYSIS

- For the analysis of the study area intersections, the County of Los Angeles requires that either the Intersection Capacity Utilization (ICU) Method or the Critical Movement Analysis (CMA) procedure be used. The analysis of the signalized study intersections was conducted utilizing the Circular 212 Planning method, which provides the required CMA analysis.
- For analysis of stop-controlled intersections, the methodology from the Highway Capacity Manual (HCM) published by the Transportation Research Board (TRB) was utilized. The HCM expresses levels of service in terms of average delay (seconds per vehicle).
- Capacity factors for level of service calculations were applied at major intersections along the Metro Gold Line LRT corridor, to account for the effects of traffic signal pre-emption and train crossing movements.

EXISTING CONDITIONS ANALYSIS

- The analysis of operations at the study intersections was conducted for weekday a.m. and p.m. peak-hour conditions. New traffic counts were conducted for this traffic impact study in January 2013.
- Two study intersections were determined to currently operate at poor LOS values of E under existing conditions.

FUTURE PRE-PROJECT CONDITIONS ANALYSIS

- This section examines study area roadway network operations in the future buildout period (year 2035), with existing land use and estimated growth.
- To estimate future baseline conditions (future traffic volumes without the Specific Plan), existing volumes were increased by a growth rate determined by sub-regional growth estimates defined by the Metro Congestion Management Program (CMP) of 2010.
- Traffic growth through the year 2035 was applied, matching that of the regional traffic model maintained by SCAG. The CMP growth rates are based on results from a Metro adaptation of the regional traffic model.
- A list of six cumulative/area projects identified near to the study area, within both the County of Los Angeles and the City of Los Angeles, were included in the analysis. The area projects are based on information provided by County Regional planning and LADOT Development Review
- The identified area projects would generate a total of 845 daily vehicle trips, including 65 trips in the a.m. peak hour and 80 trips in the p.m. peak hour.
- Six study intersections would operate at poor LOS values of E or F during one or both of the weekday peak hours, under this scenario.

FUTURE POST-PROJECT CONDITIONS ANALYSIS

- KOA was provided details from the Specific Plan land use map, based on commercial floor area increases and residential unit increases in various areas of the study area. Trip generation for these land uses was analyzed and impacts were examined.
- The incremental (net) development increase/decrease by Traffic Analysis Zone (TAZ) was derived by subtracting the intensity of the proposed Specific Plan land uses from that of the existing land uses. The changes in development intensities would include parcel turnover and redevelopment (recycling), as well new development envisioned by the Specific Plan.
- The increased development that would be allowed under the proposed Plan could, at maximum density, generate the following new vehicle trips:

- Commercial uses - 184,836 daily trips, including 3,855 in a.m. peak, 10,744 in p.m. peak
- Residential uses - 34,126 daily trips, including 2,336 in a.m. peak, 2,957 in p.m. peak
- Internal trip capture reductions, for trips that would remain local to each TAZ area were included, which would constitute walking trips or trips by other non-vehicle modes due to attraction between commercial and residential uses.
- Credits for transit use were taken based on trip generation and walking-distance proximity (assumed to be one-half of a mile for the analysis) to Metro Gold Line stations.
- Trips were distributed to the study area based on directional distribution percentages from the local Regional Statistical Area (RSA), defined by the Metro regional planning model for the CMP.
- A total of 31 of the 36 study intersections would operate at poor LOS values of E or F during the peak hours, and 26 of these intersections would operate at deficient LOS F, under this scenario.

PROGRAM LEVEL MITIGATION MEASURE RECOMMENDATIONS

- To ensure that adequate mobility is maintained within a Specific Plan or General Plan project area, locations are identified for potential improvements, where cumulative impacts of future land use changes would occur over the timespan of the plan.
- Improvements would then be implemented as new development occurs, as they become justified and are physically and financially feasible within the scope of individual projects.
- Out of the total of 36 study intersections, operations at the following number of intersections would worsen to or within deficient LOS values of E or F, due to anticipated new trips that would be generated by the proposed maximum land uses allowed under the proposed Land Use Plan:
 - In the AM peak hour – 20 intersections
 - In the PM peak hour – 33 intersections
 - In either the AM or PM peak hour – 33 intersections
- The mitigation measure analysis did not identify physical mitigation measures for the mitigation of impacts, and residual impacts remain and most analyzed intersections. Two recommended new traffic signals within the study area would mitigate two of the identified significant impacts.
- Recommended methods to fill this gap in identified mitigation measures include a programmatic approach to multimodal traffic operations and facilities improvements.

ALTERNATIVE PROGRAM-LEVEL MITIGATION

- For the residual impacts, physical mitigation measures (adding through lanes on arterials, adding

additional lanes to north-south roadways, adding turn lanes) were not considered feasible within the scope of the proposed Land Use Plan. Such measures could compromise the ability to develop small commercial parcels by requiring additional land to be provided for public right-of-way.

- The Public Review Draft of the 2014 Los Angeles County General Plan has specific guidance on mitigation at poor levels of service that has been considered within this document. The General plan is not yet adopted by the County, but the goals and policies within that document have served to guide the conclusions of this document.
- The draft general plan policies support alternatives modes of transportation, a quality walking environment, investments in transit, and specifically for proposed policy M4.7 states the following: “Maintain a minimum LOS D, where feasible; however, allow LOS below D on a case by case basis in order to further other General Plan goals and policies, such as those related to environmental protection, infill development, and active transportation.”
- It is recommended that the Department of Regional Planning and the Department of Public Works provide for broader latitude of traffic study mitigation measures for the Specific Plan area, than those currently allowed under the current traffic impact study guidelines.
- Developments that meet current thresholds for requiring traffic study submittals as part of entitlements should be analyzed against multiple thresholds that incorporate vehicle trips impacts, pedestrian and bicycle travel quality impacts, and in some cases transit service quality impacts as well. The Public Review Draft of the General Plan states in Policy M4.6: “Support alternative LOS standards that account for a multimodal transportation system”.
- Future development can support the existing and future Metro Gold Line light rail corridor by providing for related bus transit stop improvements and pedestrian connections, beyond those implemented directly by Metro.
- Future improvements to, or new lines, within the El Sol service route network, could provide lower-fare local trips between local points at faster travel times. A funding mechanism for new transit capital and operating expansions, if provided for, could be a source of mitigation for future development.
- Future development projects could build upon the improvements being implemented under the Metro Eastside Access Project, extending the improved pedestrian networks, or providing the same improvements at other stations further to the east.
- Future project mitigation measures can assist in implementing new bicycle facilities, and improving the future network such as completing gaps in planned facilities.
- Overall, mitigation measures for new projects can complement or add to previous modal travel improvements in the area, or directly support planned projects and plans.

I. Introduction

A. Framework

The traffic analysis presented in this report was conducted for the East Los Angeles 3rd Street Specific Plan (Project) and the associated environmental documentation. KOA Corporation created this report for the County of Los Angeles Department of Regional Planning, while under a subcontract with Atkins. The name "Project" refers to the proposed Specific Plan within this document.

This traffic analysis documents the methods and results of the analysis of existing and future circulation conditions within the Specific Plan Project study area, both with and without the incremental increases in development expected under the updated land use plan. This report also provides recommendations regarding physical roadway facility, traffic signal, and transit enhancements, and review of planned bicycle facility improvements, all elements that are necessary to adequately accommodate anticipated growth.

B. Scope of Traffic Impact Study

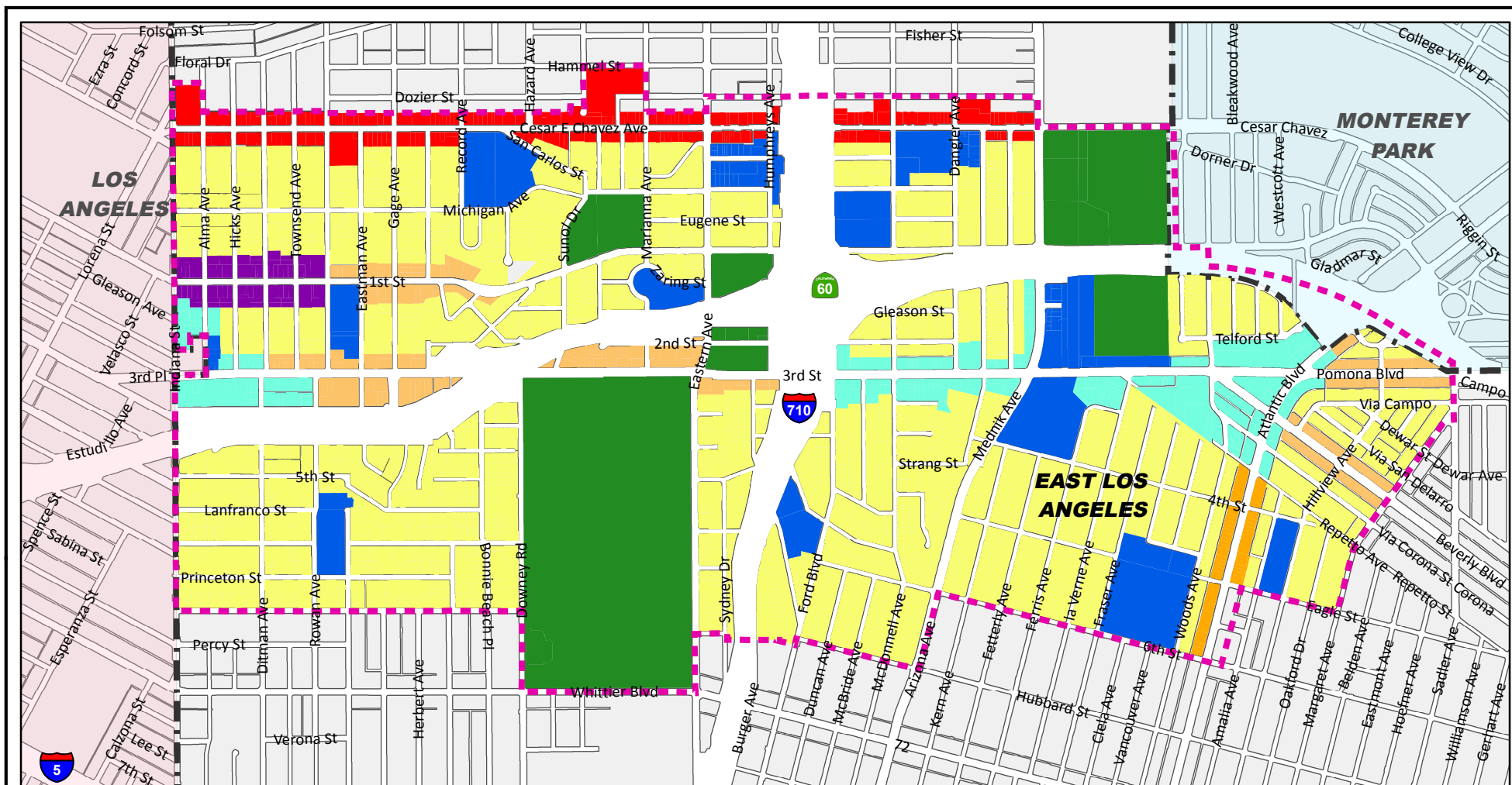
The scope of the traffic impact study conducted for the East Los Angeles Specific Plan update was developed during coordination efforts with the Traffic and Lighting Division of the Los Angeles County Department of Public Works. Based on the commercial corridors where land uses would primarily change or intensify under the Specific Plan, and also based on the locations of major roadway intersections, a study area was developed.

The study area includes 36 intersections, of which 30 intersections are located in the County of Los Angeles, three intersections are located on the border of the County of Los Angeles and City of Los Angeles, and three intersections are located entirely within the City of Los Angeles:



- | | |
|---|-------------------------------------|
| 1) Brooklyn Pl-Lorena St & Cesar Chavez Ave # | 21) Gage Ave & 3rd St |
| 2) Indiana St & Cesar Chavez Ave * ## | 22) SR-60 VWB on/off Ramps & 3rd St |
| 3) Rowan St & Cesar Chavez Ave | 23) Downey Rd & 3rd St |
| 4) Gage Ave & Cesar Chavez Ave | 24) Downey Rd & SR 60 EB Off Ramp * |
| 5) Hazard Ave & Cesar Chavez Ave | 25) Eastern Ave & 3rd St |
| 6) Eastern Ave & Cesar Chavez Ave | 26) Ford Blvd & 3rd St |
| 7) Humphreys Ave & Cesar Chavez Ave * | 27) McDonnell Ave & 3rd St |
| 8) Ford Blvd & Cesar Chavez Ave | 28) Mednik Ave & 3rd St |
| 9) McDonnell Ave & Cesar Chavez Ave | 29) La Verne Ave & 3rd St |
| 10) Mednik Ave & Cesar Chavez Ave | 30) Beverly Blvd-Woods Ave & 3rd St |
| 11) Lorena St & 1st St # | 31) Atlantic Blvd & 3rd St |
| 12) Indiana St & 1st St ## | 32) Atlantic Blvd & Beverly Blvd |
| 13) Rowan St & 1st St | 33) Hillview Ave & Beverly Blvd |
| 14) Gage Ave & 1st St | 34) Downey Rd & Whittier Blvd |
| 15) Sunol Dr & 1st St | 35) Eastern Ave & Whittier Blvd |
| 16) Eastern Ave & 1st St | 36) Arizona Ave & Whittier Blvd |
| 17) Mednik Ave & 1st St | |
| 18) Lorena St & 4th St # | |
| 19) Indiana St & 3rd St ## | |
| 20) Rowan St & 3rd St | |
- * Stop-sign controlled intersection
Located within City of Los Angeles
Located on City/County border

Significant traffic impacts of development that could result from implementation of the Project land use plan were evaluated for the weekday a.m. and p.m. peak periods at the study intersections.





Figure 1 illustrates the Specific Plan boundaries, in relationship to the area roadway network. Figure 2 illustrates the locations of the study area intersections in relation to the Specific Plan boundaries and the transportation analysis zones or TAZs used for the land use trip generation analysis.







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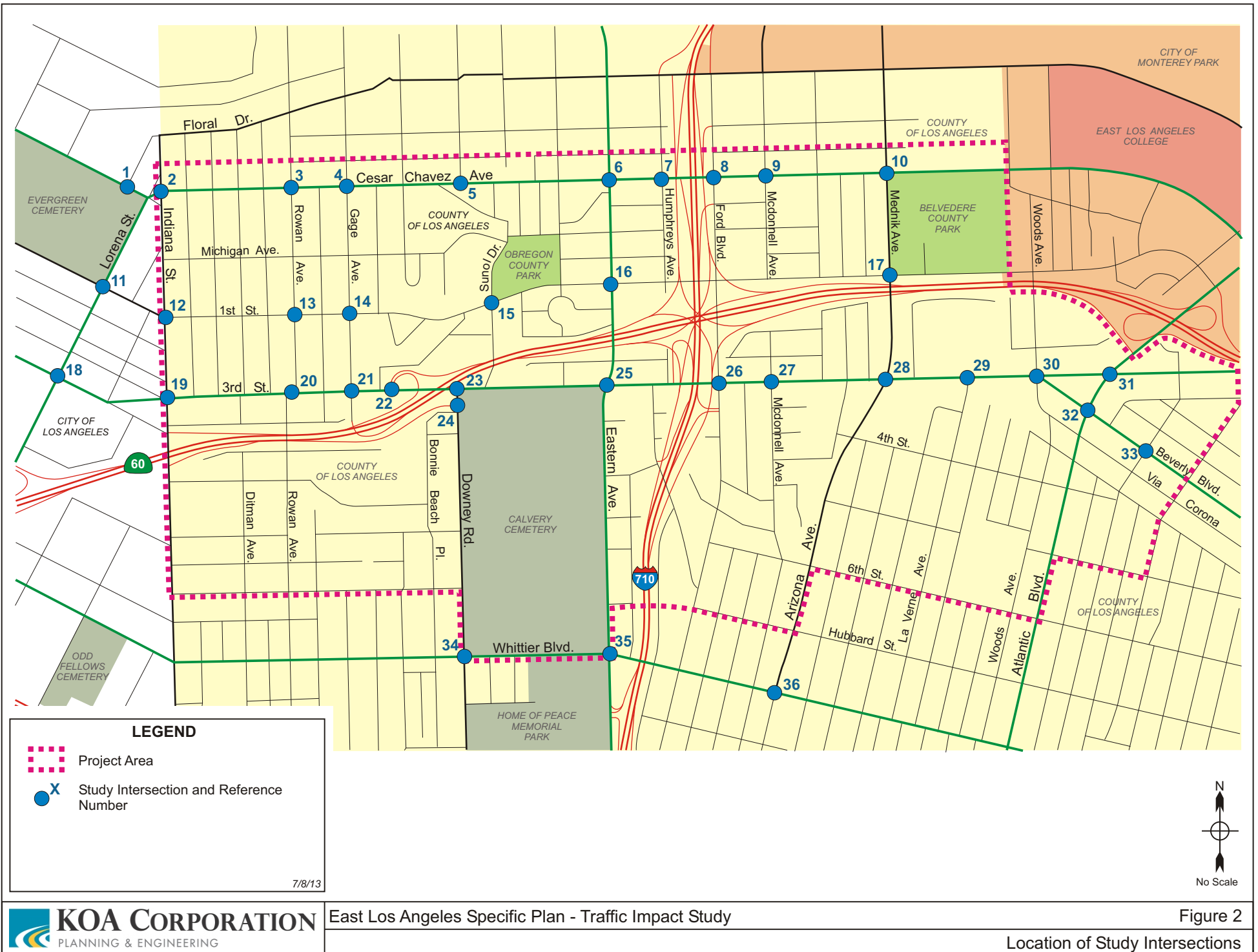
-  Study Area
-  East Los Angeles Boundary

Project Land Use

-  CV - Civic Center
-  LMD - Low-Medium Density Residential
-  AB - Mixed-Use Atlantic Boulevard
-  NC - Mixed-Use Neighborhood Center

-  CC - Mixed-Use Cesar Chavez
-  FS - Mixed-Use First Street
-  TOD
-  OS - Open Space





C. Analysis Methodology

Key tasks undertaken for this traffic analysis include: 1) definition of study approach, 2) determination of existing traffic conditions, 3) trip generation forecasts of the planned Specific Plan land uses, 4) assignment of Project-generated trips to the study area roadway system and, 5) evaluation of the impact of cumulative traffic at the study intersections. This report follows guidelines within the LACDPW document *Traffic Impact Analysis Report Guidelines*.

KOA Corporation coordinated with County of Los Angeles Regional Planning staff, and subsequently with staff within the Traffic and Lighting Division of the Department of Public Works, at the start of this study to achieve consensus on assumptions such as study intersection locations. Traffic study guidelines defined by the City of Los Angeles Department of Transportation (LADOT) were incorporated into the analysis of study intersections that are located on the border of or within the City.

The following text describes the methodology applied to the traffic analysis.

Study Scenarios

Weekday a.m. and p.m. peak-hour traffic operations were evaluated at the study intersections for the following traffic scenarios, numbered in this specific manner for discussion purposes. Significant traffic impacts are determined in the third and fourth scenarios:

1. Existing (year 2013) Conditions
2. Future (year 2035) Ambient Growth Conditions
3. Future (year 2035) + Ambient Growth + Proposed Project
4. Future (year 2035) + Cumulative Projects + Proposed Project

The County traffic study guidelines define significant impacts by two specific comparisons of the scenarios defined above:

- The incremental change from Scenario 2 to Scenario 3 (Project Impacts)
- The incremental change from Scenario 2 to Scenario 4 (Cumulative Impacts)

The City of Los Angeles traffic study guidelines define significant impacts by a single comparison of these scenarios:

- The incremental change from Scenario 3 to Scenario 4 (Project Impacts)

The proposed project being analyzed by this document is the program-level concept of the Specific Plan. The land use authorized by adoption of the related land use plan would be implemented through new private development and revitalization of older uses. This would occur over time through the buildout year of the plan, while adjacent neighborhoods would also be experiencing new development within the same timeframe.

Therefore, the Project impacts were primarily analyzed using County methodology, based on the incremental cumulative traffic impact of all Specific Plan land use intensity/use changes, plus other identified planned development projects in the vicinity of the study area. For the three intersections located within the City of Los Angeles, a supplemental analysis based on City guidelines was applied using all other cumulative projects as the baseline, and the incremental impacts of the Specific Plan land

uses. Impacts using growth-only conditions as the baseline were not analyzed, as this traffic analysis is focused on a future buildout year of all area land uses. Growth rate and the cumulative development assumptions for pre-Project conditions are analyzed within Section 4.

Land Use Plan Source

The land use plan defines the planned future intensity of development for the Specific Plan area, which was used within this traffic impact analysis to calculate trips generated by customized analysis zones within the study area. A traffic analysis zone (TAZ) is constituted by one or more census blocks from the United States Census. TAZs were defined as part of the 1990 Census within the Census Transportation Planning Package (CTPP). The study area analysis zones are based on these TAZs, but customized to analyze separately the commercial land use corridors and the adjacent residential neighborhoods.

Land use data for existing conditions, and proposed conditions under the Specific Plan land use plan, generated by County Regional Planning, were used to define the potential incremental change in area land uses for this impact analysis that would occur due to the Project.

The analysis of the land use plan data, and related trip generation, distribution, and assignment steps, are discussed in more detail within Section 5 of this report.

Intersection Operations Analysis

The analysis of peak hour intersection Level of Service (LOS) is the primary indicator of circulation system performance. For the analysis of the study area intersections, the County of Los Angeles requires that either the Intersection Capacity Utilization (ICU) Method or the Critical Movement Analysis (CMA) procedure be used. The analysis of the signalized study intersections was conducted utilizing the Circular 212 Planning method, which provides the required CMA analysis.

The concept of intersection level of service is calculated as the volume of vehicles that pass through the facility divided by the capacity of that facility. A facility is “at capacity” (v/c of 1.00 or greater) when extreme congestion occurs. This volume/capacity ratio value is based upon volumes by lane, lane capacity, and approach lane configurations.

For analysis of a stop-controlled intersection, the methodology from the Highway Capacity Manual (HCM) published by the Transportation Research Board (TRB) was utilized. The HCM expresses levels of service in terms of average delay (seconds per vehicle). For a partially-controlled intersection (with stop signs at only some approaches), the average delay for the critical stop-controlled approach at the intersection is computed.

The five-legged study intersection of Beverly Boulevard-Woods Avenue/3rd Street was analyzed using HCM software within the Synchro program, as the Traffic software used to analyze the other study intersections cannot conduct such analysis and complicated phasing of this type of intersection necessitates a more robust analysis. The output in seconds of delay was used to analyze this location.

Level of service (LOS) values range from LOS A to LOS F. LOS A indicates excellent operating conditions with little delay to motorists, whereas LOS F represents congested conditions with excessive vehicle delay. LOS E is typically defined as the operating “capacity” of a roadway. Los Angeles County defines LOS D as the lowest acceptable operating condition. The concept of acceptability is used by the

County for roadway planning purposes. Significant traffic impacts, the focus of this study, are defined using separate thresholds based on operational changes and multiple level of service values.

Table I defines the LOS value ranges, based on volume/capacity ratio for signalized intersections and average delay per approaching vehicle in seconds of unsignalized intersections.

LOS E conditions denote near-capacity conditions, while LOS F conditions denote at-capacity or over-capacity conditions.

Table I – Level of Service Range Definitions

LOS	Definition	Signalized Intersection Volume/Capacity Ratio	Stop-Controlled Intersection Average Stop Delay Per Vehicle (Sec/Veh) (HCM)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.000 - 0.600	≤10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.601 - 0.700	>10 - 15
C	Good operation. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.701 - 0.800	>15 - 25
D	Fair operation. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	0.801 - 0.900	>25 - 35
E	Poor operation. Some long standing vehicular queues develop on critical approaches.	0.901 - 1.000	>35 - 50
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	Greater than 1.000	>50
Source: Highway Capacity Manual 2010, Transportation Research Board, Washington D.C., and Traffic Study Criteria for the Review of Proposed Development Projects within the City of Culver City.			

Intersections Affected by Gold Line Operations

A factor of 0.15 was applied to the calculated volume-to-capacity (v/c) ratios at major intersections along the Metro Gold Line LRT corridor, to account for the effects of traffic signal pre-emption and train crossing movements. This accounts for the Gold Line dedicated signal phase and general train frequency. During this lost time, special signal timing is in effect and cross movements receive a prolonged red signal indication. This can especially affect intersections with major north-south roadway approaches.

The factor was applied at the Lorena Street/1st Street intersection; the Indiana Street/1st Street intersection; and the 3rd Street intersections with Indiana Street, Downey Road, Eastern Avenue, Ford Boulevard, Mednik Avenue, and Beverly Boulevard-Woods Avenue.

County TSSP Corridor Synchronization Program

The County of Los Angeles has been implementing corridor-level traffic signal operational improvements via the Traffic Signal Synchronization Program (TSSP) since its inception in 1988. The typical TSSP project involves upgrading all the traffic signals along a corridor, installing new vehicle detectors in the pavement to detect the presence of vehicles, coordinating the timing of the signals between successive intersections, and automatically adjusting the traffic signals to facilitate the movement of vehicles through the intersections. Within the study area, the County has implemented a TSSP corridor on Cesar Chavez Avenue, between Indiana Street and Arizona Avenue.

Based on experiences with such systems in the City of Los Angeles, an expected benefit of implementation is approximately 10 percent of capacity. Therefore, for signalized study intersections within the Cesar Chavez Avenue corridor, a reduction of 10 percent in volume-to-capacity ratios was applied for all of the analysis scenarios.

Significant Impact Calculations

The traffic impact analysis included an assessment of weekday a.m. and p.m. peak hour traffic impacts at the 36 study intersections. As defined by the Los Angeles County traffic study guidelines, significant impacts of a proposed Project at study intersections must be mitigated to a level of insignificance, for both project-only and cumulative impacts. In cases where capacity increases are possible, mitigation measures were analyzed that would reduce impacts to less than significant levels.

Impact standards of the City of Los Angeles were applied to intersections located either on the border of the City and County, and were also applied to intersections located entirely within the City. The incremental impacts of the Specific Plan only were analyzed in a supplemental analysis at these locations, using the impact standards of the City.

Significant impact calculations for post-project conditions with implementation of the Specific Plan land uses, are discussed in more detail within Section 5 of this report.

2. Existing Transportation Facilities

This section documents the existing roadway configurations and types of facilities for various travel modes within the study area.

A. Existing Roadway System

Key freeway facilities within the study area are described below. A description of the roadways that traverse the study intersections are summarized in Table 2. Figure 3 depicts the approach lane configurations and traffic control at the study intersections.

The State Route 60 (SR-60) freeway is an east-west regional freeway, providing access directly to roadways within the study area. The facility has a western terminus at downtown Los Angeles and an eastern terminus in Riverside County. Within the study area, the freeway has four to five travel lanes in each direction and can be accessed via local interchanges at Indiana Street, Gage Avenue, 3rd Street, and Atlantic Boulevard.

The Interstate 710 (I-710) freeway is a north-south regional freeway, also providing direct access to the study area. The facility has a northern terminus at Valley Boulevard in Alhambra and a southern terminus in Long Beach. Within the study area, the I-710 Freeway has four lanes in each direction and can be accessed via local interchanges at Cesar E. Chavez Avenue, 3rd Street, and Ford Boulevard.

This report sub-section summarizes the physical roadway configurations within the study area. The discussion presented here is generally limited to the roadways that traverse the study intersections.

Table 2 provides a summary of roadway characteristics within the study area. The information is organized by columns, which are described from left to right below:

- Segment: The extents of the analyzed segment are described. New segments were utilized where characteristics of the roadway differ.
- # Lanes: The number of travel lanes for both directions of the roadway segment (northbound/eastbound or southbound/westbound) is indicated as a numeric value.
- Median / Centerline Type: The roadway median or centerline type is described here.
- Parking: On-street parking allowances or prohibitions are identified here.
- Intersection pockets/others: The characteristics of turn pockets at major intersections are described here, along with other defining characteristics of the roadway.
- Speed limit: The posted or implied (for residential areas) is listed here.

Table 2 – Study Area Roadway Characteristics

Segment	From	To	# Lanes		Median Type	Parking Restrictions		General Land Use	Posted Speed Limit
			NB / EB	SB / WB		NB / WB	SB / EB		
Cesar E Chavez Avenue	Lorena St	Rowan Ave	2	2	DY	Permitted	Permitted	Commercial	30
	Rowan Ave	Gage Ave	1	1	2LT	Permitted	Permitted	Commercial	
	Gage Ave	Eastern Ave	2	2	DY	Permitted	Permitted	Commercial	30
	Eastern Ave	Ford Blvd	2	2	DY	No Parking / No Stopping Any Time	No Parking / No Stopping Any Time	Commercial	30
	Ford Blvd	Mednik Ave	2	2	DY	Permitted	Permitted	Commercial	30
1st Street	Lorena St	Indiana St	1	1	LRT	No Parking	No Parking	Commercial	30
	Indiana St	Herbert Ave	2	2	DY	Permitted	Permitted	Commercial	30
	Herbert Ave	Sunol Dr	2	2	DY	No Stopping Any Time	No Stopping Any Time / Permitted	Commercial / Residential	35
	Sunol Dr	Eastern Ave	2	2	DY	Permitted	Permitted	Recreational / Residential	35
	Eastern Ave	Mednik Ave	2	2	2LT	Permitted / No Stopping Any Time	No Stopping Any Time	Residential	35
3rd Street	Lorena St	Indiana St	2	2	DY	Permitted	No Stopping Any Time / Permitted	Residential	35
	Indiana St	Rowan Ave	2	2	LRT	Permitted	Permitted	Residential	35
	Rowan Ave	Gage Ave	1	1	LRT	Permitted	No Parking	Commercial / Residential	25 (School)
	Gage Ave	Eastern Ave	1 / 2	1 / 2	LRT	No Stopping Any Time / Permitted	No Stopping Any Time	Commercial / Residential	35
	Eastern Ave	Atlantic Blvd	1 / 2	1 / 2	LRT	Permitted / No Stopping Any Time	Permitted / No Stopping Any Time	Commercial / Residential	35
Lorena Street	Cesar Chavez Ave	4th St	1	1	2LT	Permitted	Permitted	Commercial / Residential	35
Eastern Avenue	Cesar Chavez Ave	Whittier Blvd	2	2	2LT	No Stopping Any Time	Permitted	Commercial / Residential	40
Mednik Avenue / Arizona Avenue	Cesar Chavez Ave	3rd St	2	2	DY	Permitted	Permitted / No Parking	Commercial / Residential	35
	3rd St	Whittier Blvd	2	2	RM	Permitted	Permitted	Residential	35
Atlantic Boulevard	Cesar Chavez Ave	Beverly Blvd	2 / 3	2 / 3	RM	No Parking	Permitted	Commercial	35

Notes: DY - Double Yellow, 2LT - Dual Left Turn, RM - Raised Median, LRT - Light Rail Transit

B. Non-Motorized Transportation Routes

Non-motorized transportation includes bicycle and pedestrian facilities. The text below discusses these facilities as they apply to the study area roadway network.

Bicycle Facilities

Caltrans has developed statewide standards and definitions for the planning, design and implementation of bicycle facilities. The following is a summation of these standards. The class numbering standard is being phased out, to some extent, as the name of the facility type becomes more commonplace.

Class I (Bicycle Path) – A bicycle path is a special facility that is designed exclusively for the use of bicycles. They are physically separated from motor vehicle traffic by a physical barrier or landscaped area. Bicycle paths are more often used for recreation and are generally provided in along river channels and former railroad rights-of-way. Some bicycle lane facilities denote the lane with both striping and with color-shading within the lane, or color-shading at conflict points such as intersections and driveways.

Cycle tracks, a facility where the bicycle lane is located between the sidewalk and either on-street parking or a travel lane and separated by a curb or median or other barrier, is a method for implementing a facility with some similar benefits to a bicycle path. These facilities require special treatments at intersections, depending upon the setback from the travel lane and visibility issues.

Class II (Bicycle Lane) – A bicycle lane is a facility where a portion of the paved roadway area is marked as a special lane for use by bicycles only. It is identified by signage along the street that denotes “Bike Lane”, pavement markings and lane line markings. Motor vehicles are prohibited from driving in bike lanes except when turning to and from driveways, intersections, or on-street parking.

Class III (Bicycle Route) – A bicycle route is defined as a bicycle way designated within a public right-of-way. The purpose of the bicycle route is to encourage a sharing of the roadway between vehicles and bicycles. They are identified by signage along the street that denotes “Bike Route.” No other pavement markings are employed with these facilities.

A bicycle boulevard is an enhanced Class III facility. The purpose of the bicycle boulevard is to more visibly denote the sharing of a roadway by vehicles and bicycles. They are typically identified by signage along the street that depicts a bicycle with text that denotes “Share the Road”, and also by roadway striping that shows a bicycle with chevrons/arrows denoting a shared lane. Some bicycle boulevards denote the lane sharing with a color-shaded lane, or color-shading at conflict points such as intersections and driveways. Traffic calming measures along the corridor, and enhanced directional signage, are often a part of the implementation of such facilities.

Existing bicycle facilities within and near to the study area include the following:

- Bicycle lanes on 1st Street, within the City of Los Angeles to the west of Lorena Street (this facility includes color-shading of the lane at intersections and driveways)
- Bicycle lanes on Lorena Street, within the City of Los Angeles between Cesar Chavez Avenue and 4th Street (continuing to the south as a bicycle route)
- Bicycle lanes on Gerhart Avenue, within East Los Angeles between Via Campo and Beverly Boulevard

Figure 3 illustrates the locations of these existing area bicycle facilities.



LEGEND

Study Area

East Los Angeles Boundary

Existing Bikeways

Bike Lane

Bike Route



0 0.25 0.5 Miles

Regional Bicycle Facility Planning

The County of Los Angeles Board of Supervisors adopted the current Bicycle Master Plan in March 2012. The Plan estimates that within the metro/downtown Los Angeles area by the year 2030, the total number of daily bicycle commuters could increase from the current estimate of 2,612 to 12,021. The bike-to-work mode share is estimated by the Plan to increase from the current 0.30 percent to 1.0 percent for that sub-area.

The Los Angeles County Metropolitan Transportation Authority (Metro) publishes the Metro Bike Map, a regional map that includes existing bicycle facilities within all jurisdictions of the County of Los Angeles.

Planned regional bicycle facilities within the study area are discussed later within this report.

Pedestrian Circulation

Pedestrian walking areas are an integral part of a city's circulation system. The connectivity of a sidewalk system, in terms of an overall network and links to neighboring major land uses, is a primary factor in pedestrian mobility. A sidewalk is an area of refuge from vehicle traffic that provides a safe route for pedestrian transport.

In order for sidewalks to be an effective choice for transportation, they need to be kept free of obstructions. When equipment such as utility poles, fire hydrants, traffic controls or street lighting must be placed on the sidewalk, it should be placed to minimize interference with pedestrian flow. When street furniture becomes an obstacle to pedestrian flow, it should be prohibited. The study area is entirely urbanized and roadways generally have sidewalks on both sides in all areas. Actuated (push button) or automatic crosswalks phases at signalized locations also are part of the pedestrian network. The width of sidewalks should not be affected by traffic mitigation measures, so that the pedestrian network is not compromised.

C. Public Transportation

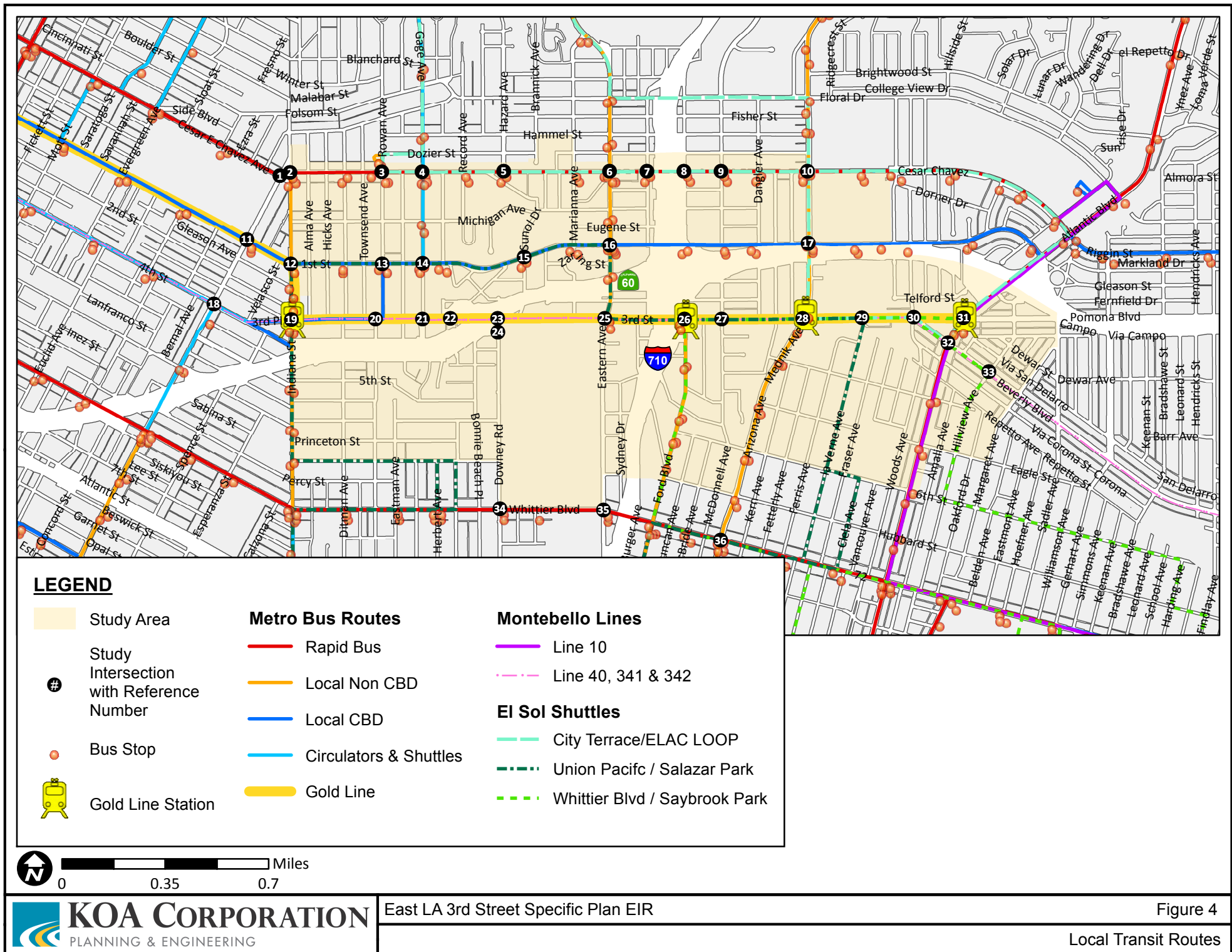
Public transportation in the study area, as defined here, consists of fixed route bus service, Light Rail Transit (LRT), and demand response service. This latter type of service is an advance reservation, shared ride transportation service for senior residents and disabled of any age and their attendants. Existing rail transit as well as local bus transit services that collectively provide viable alternatives to use of the private automobile are discussed below.

The study area is served by Metro Gold Line rail service and bus transit lines operated by the Los Angeles County Metropolitan Transportation Authority, the El Sol Shuttle operated by the Los Angeles County Department of Public Works, and Montebello Bus Lines operated by the City of Montebello.

Table 3 summarizes the service characteristics of the existing transit lines within the study area and Figure 4 illustrates the routes of these lines.

Table 3 – Characteristics of Existing Public Transit Service in Study Area

Agency/Service	Line	Service From	Service To	Via	Peak Frequency
Metro	18	Wilshire Center	Montebello	Whittier Blvd.	3 - 8 Minutes
Metro	68	Los Angeles	Montebello	Cesar Chavez Ave. / Atlantic Blvd. / 1st St. / Indiana St.	13 - 16 Minutes
Metro	254	Watts	Boyle Heights	Lorena St. / Whittier Blvd. / Indiana St. / Cesar Chavez Ave. / Rowan Ave.	30 - 60 Minutes
Metro	256	Commerce	Altadena	Eastern Ave. / 3rd St. / Ford Blvd.	45 Minutes
Metro	258	Paramount	Alhambra	Arizona Ave. / Mednik Ave.	35 - 45 Minutes
Metro	260	Altadena	Compton	Atlantic Blvd.	10 - 20 Minutes
Metro Rail	Gold Line	East Los Angeles	Pasadena	1st St. / Indiana St. / 3rd St. / Atlantic Blvd.	6 Minutes
Metro Rapid	720	Santa Monica	Commerce	Whittier Blvd.	2 - 10 Minutes
Metro Rapid	762	Compton	Pasadena	Atlantic Blvd.	17 - 30 Minutes
Metro Rapid	770	Los Angeles	El Monte	Cesar Chavez Ave.	10 - 15 Minutes
Metro Shuttle	605	Boyle Heights	Boyle Heights	Lorena St.	15 Minutes
Metro Shuttle	620	Boyle Heights	Boyle Heights	Indiana St. / 1st St.	60 Minutes
Metro Shuttle	665	Los Angeles	Los Angeles	Indiana St. / 1st St. / Gage Ave.	30 - 40 Minutes
Montebello	M40	Los Angeles	Whittier	3rd St. / Beverly Blvd.	18 - 20 Minutes
Montebello	M341	Los Angeles	Whittier	3rd St. / Beverly Blvd.	19 - 20 Minutes
Montebello	M342	Los Angeles	Whittier	3rd St. / Beverly Blvd.	20 - 20 Minutes
El Sol Shuttle	City Terrace / ELAC	3rd & La Verne	3rd & Woods	3rd St. / Mednik Ave. / Cesar Chavez Ave. / Gage Ave. / Eastern Ave.	60 Minutes
El Sol Shuttle	Union Pacific / Salazar Park	3rd & La Verne	3rd & Mednik	3rd St. / Whittier Blvd. / Indiana St. / 1st St. / Eastern Ave.	60 Minutes
El Sol Shuttle	Whittier Blvd / Saybrook Park	3rd & La Verne	3rd & Mednik	Whittier Blvd. / Ford Blvd. / 3rd St. / Pomona Blvd. / Hillview Ave.	60 Minutes



3. Existing Conditions

This report section documents the configuration of existing roadways and intersections within the project traffic study area. Also documented within this section are the existing traffic conditions and associated level of service (LOS) values at the study intersections.

The analysis of operations at the study intersections was conducted for weekday a.m. and p.m. peak-hour conditions. New traffic counts were conducted for this traffic impact study in January 2013.

The impact analysis within this document is based on the buildout timeframe for the regional traffic model maintained by the Southern California Association of Governments (SCAG) and last updated to provide traffic projections through the year 2035. This traffic analysis therefore examines the year 2035 as the buildout year.

The results of the analysis of existing peak-hour intersection LOS are summarized in Table 3. The table summarizes the analyzed weekday a.m. peak-hour and p.m. peak-hour conditions.

As indicated by the highlighted cells within Table 3, the following intersections operate at poor LOS values under existing conditions.

- Indiana St & Cesar Chavez Ave – Operates at LOS E in the p.m. peak-hour period.
- Eastern Avenue & 3rd Street - Operates at LOS E in the p.m. peak-hour period.

The following figures are provided within the pages after Table 3:

- Figures 5A and 5B illustrate the lane configurations and intersection control utilized for the analysis of study intersection capacities.
- Figures 6A and 6B illustrate intersection turning movement counts during the a.m. peak hour, and Figures 7A and 7B illustrate the same for the p.m. peak hour.

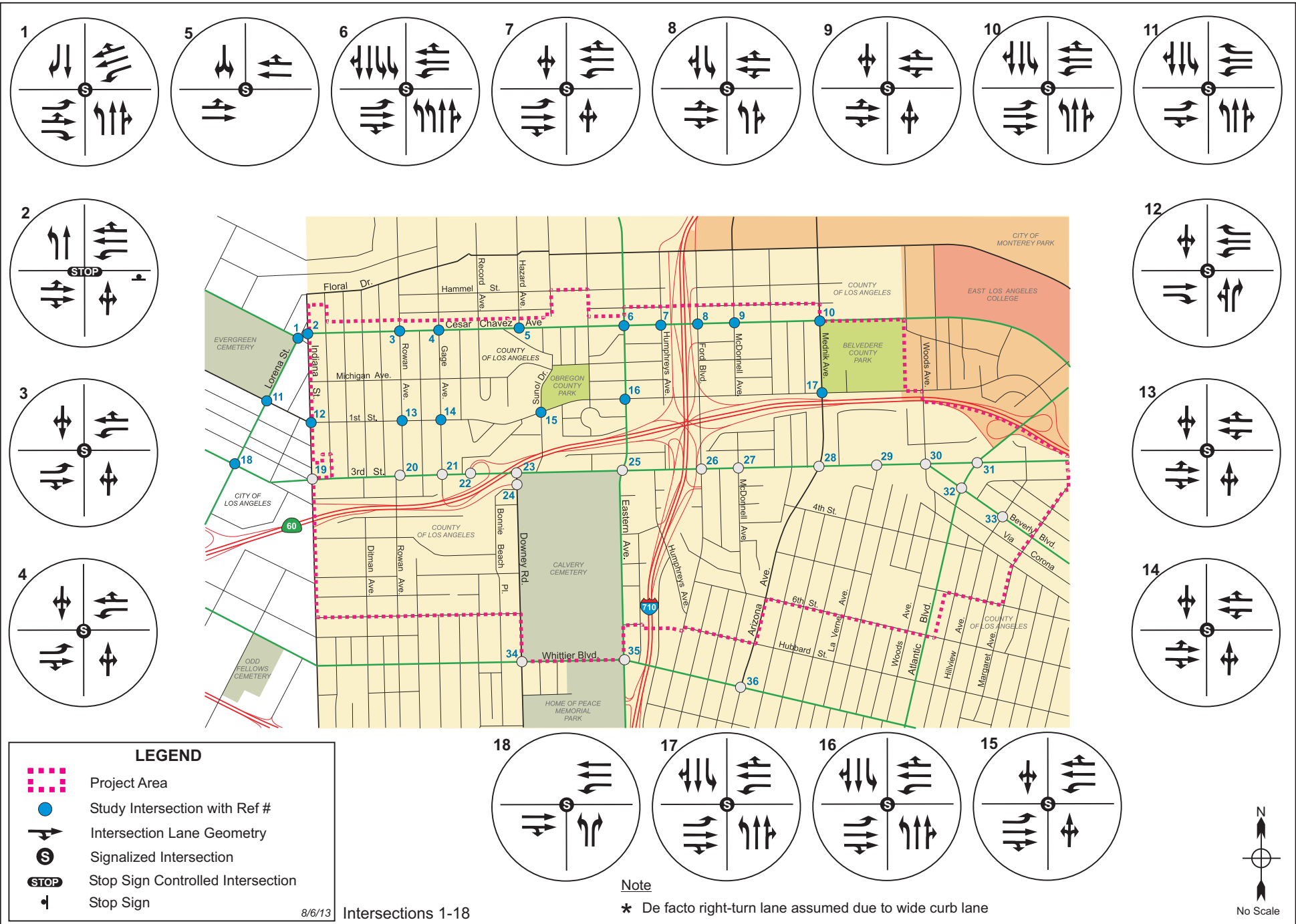
The intersection turn movement traffic counts are provided in Appendix A to this report. Intersection level of service analysis worksheets for the existing conditions scenario are provided in Appendix B.

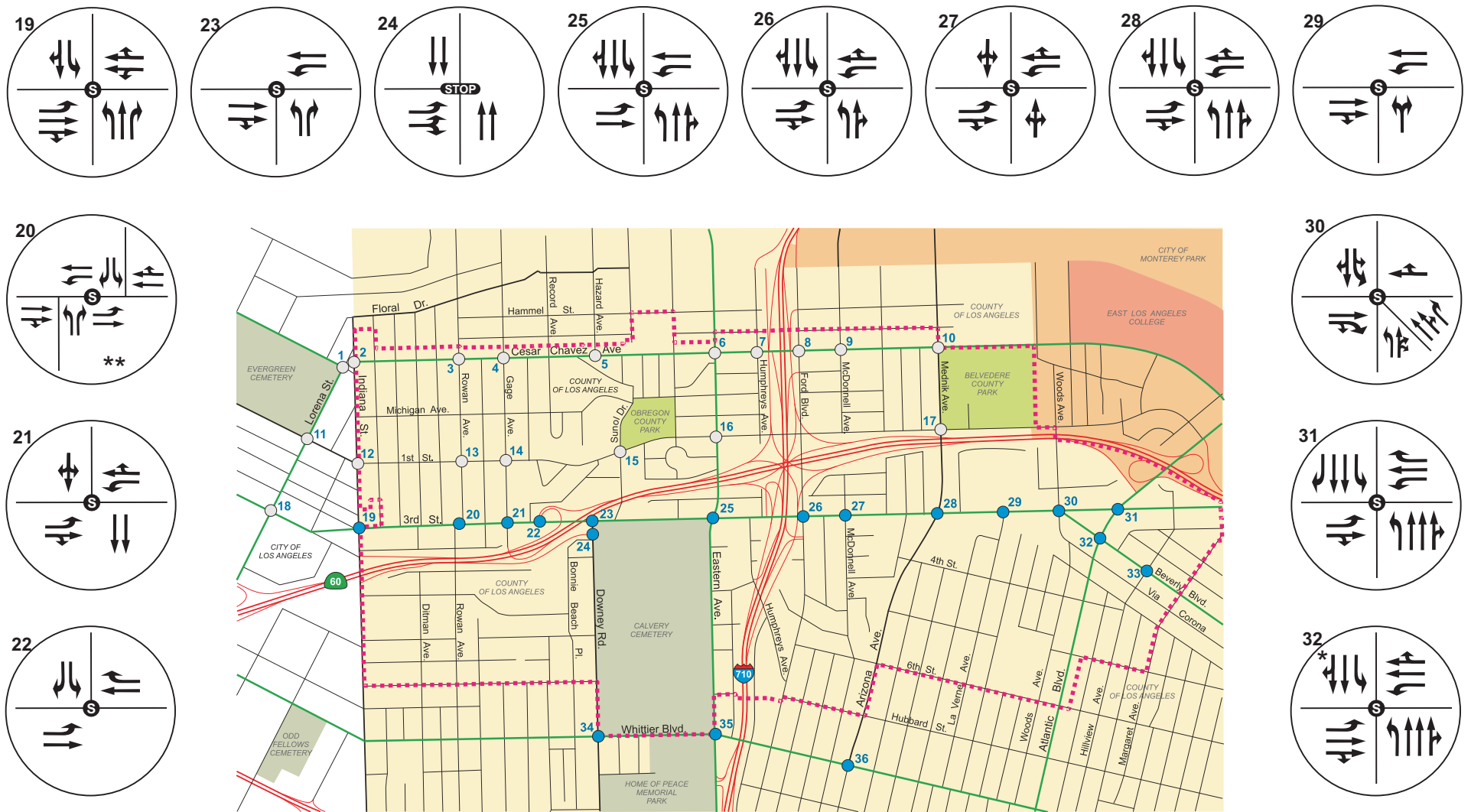
**Table 4 – Study Intersection Performance
for Existing Peak-Hour Conditions**

Study Intersections		Weekday AM Peak Hour		Weekday PM Peak Hour	
		V/C Ratio or Delay (sec.)	LOS	V/C Ratio or Delay (sec.)	LOS
1	Brooklyn Pl-Lorena St & Cesar Chavez Ave	0.347	A	0.475	A
2	Indiana St & Cesar Chavez Ave *	19.3	C	35.3	E
3	Rowan St & Cesar Chavez Ave	0.837	D	0.836	D
4	Gage Ave & Cesar Chavez Ave	0.806	D	0.756	C
5	Hazard Ave & Cesar Chavez Ave	0.558	A	0.488	A
6	Eastern Ave & Cesar Chavez Ave	0.575	A	0.534	A
7	Humphreys Ave & Cesar Chavez Ave	0.458	A	0.333	A
8	Ford Blvd & Cesar Chavez Ave	0.779	C	0.708	C
9	McDonnell Ave & Cesar Chavez Ave	0.531	A	0.445	A
10	Mednik Ave & Cesar Chavez Ave	0.484	A	0.517	A
11	Lorena St & 1st St	0.553	A	0.597	A
12	Indiana St & 1st St	0.715	C	0.769	C
13	Rowan St & 1st St	0.440	A	0.387	A
14	Gage Ave & 1st St	0.528	A	0.513	A
15	Sunol Dr & 1st St	0.339	A	0.311	A
16	Eastern Ave & 1st St	0.558	A	0.511	A
17	Mednik Ave & 1st St	0.514	A	0.554	A
18	Lorena St & 4th St	0.317	A	0.322	A
19	Indiana St & 3rd St	0.656	B	0.690	B
20	Rowan St & 3rd St	0.537	A	0.571	A
21	Gage Ave & 3rd St	0.794	C	0.644	B
22	SR-60 WB On/Off Ramps & 3rd St	0.653	B	0.630	B
23	Downey Rd & 3rd St	0.622	B	0.764	C
24	Downey Rd & SR-60 EB Off Ramp *	11.6	B	22.2	C
25	Eastern Ave & 3rd St	0.775	C	0.943	E
26	Ford Blvd & 3rd St	0.697	B	0.779	C
27	McDonnell Ave & 3rd St	0.424	A	0.513	A
28	Mednik Ave & 3rd St	0.692	B	0.710	C
29	La Verne Ave & 3rd St	0.540	A	0.386	A
30	Beverly Blvd-Woods Ave & 3rd St	23.3	C	23.3	C
31	Atlantic Blvd & 3rd St	0.683	B	0.692	B
32	Atlantic Blvd & Beverly Blvd	0.696	B	0.848	D
33	Hillview Ave & Beverly Blvd	0.441	A	0.554	A
34	Downey Rd & Whittier Blvd	0.515	A	0.675	B
35	Eastern Ave & Whittier Blvd	0.594	A	0.670	B
36	Arizona Ave & Whittier Blvd	0.391	A	0.650	B

V/C = Volume to Capacity Ratio, LOS = Level Of Service

* Unsignalized intersection. LOS is determined by average delay in seconds of approaching vehicles.





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- Project Area
- Study Intersection with Ref #
- Intersection Lane Geometry
- Signalized Intersection
- Stop Sign Controlled Intersection
- Stop Sign

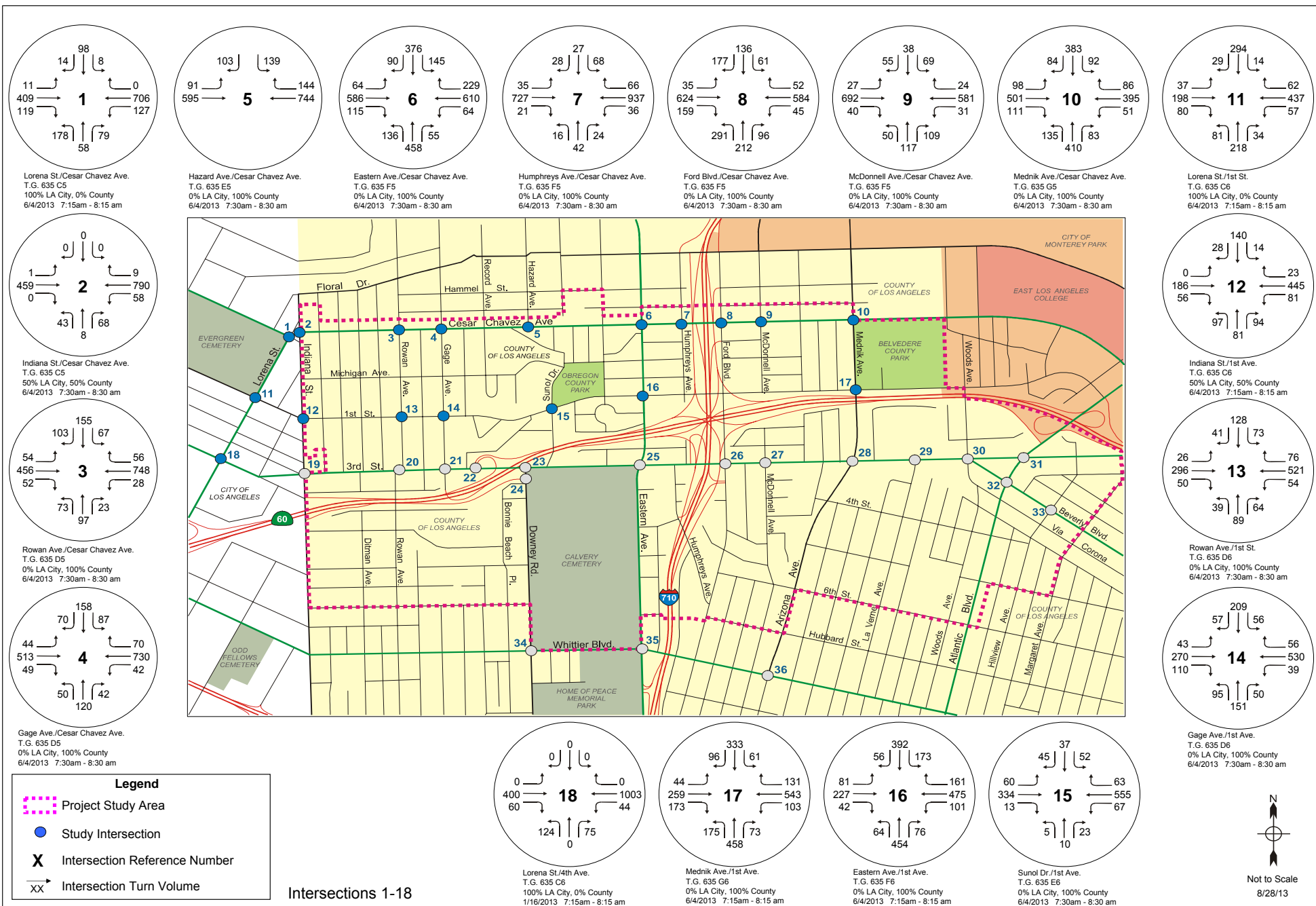
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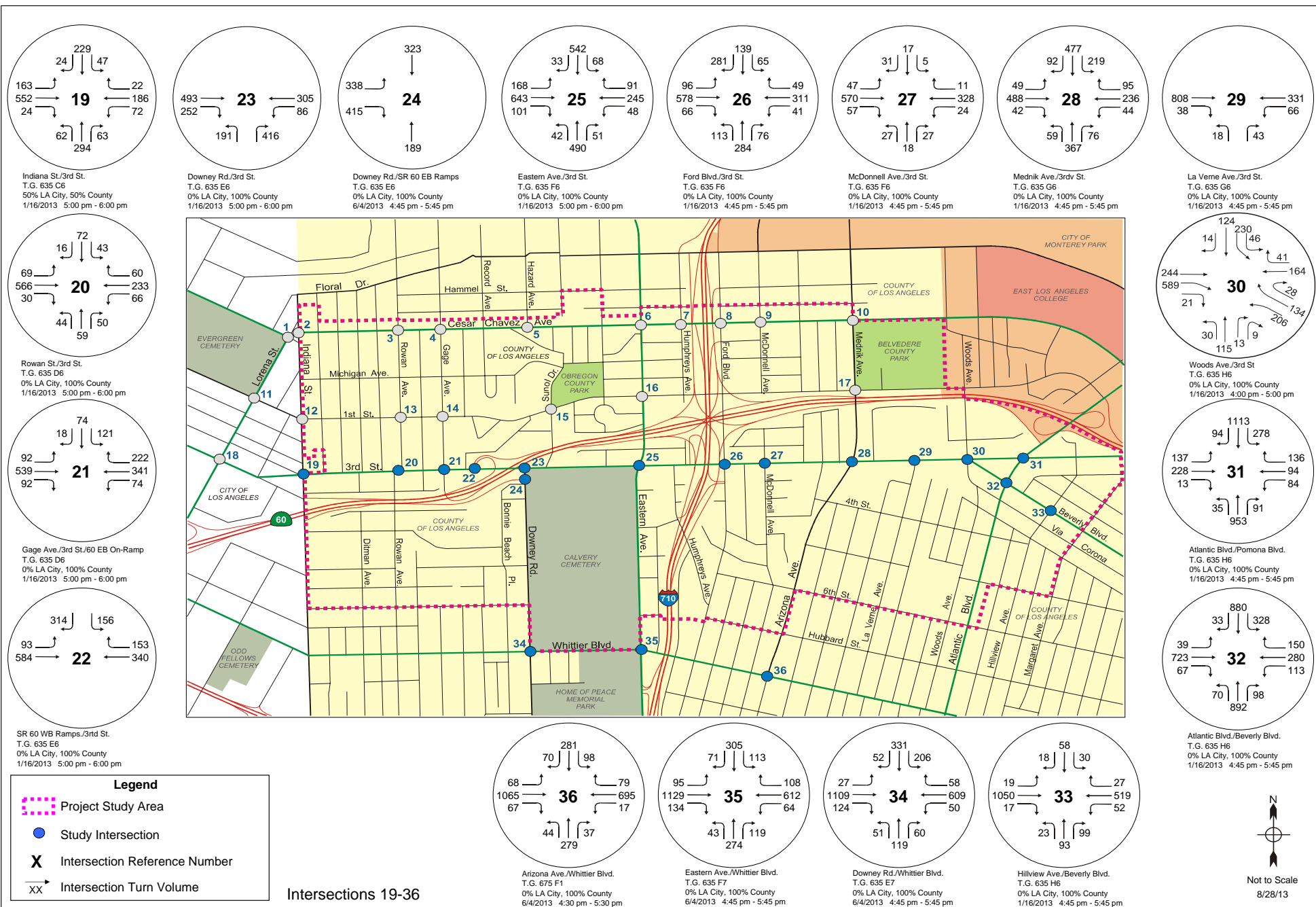
Intersections 19-36

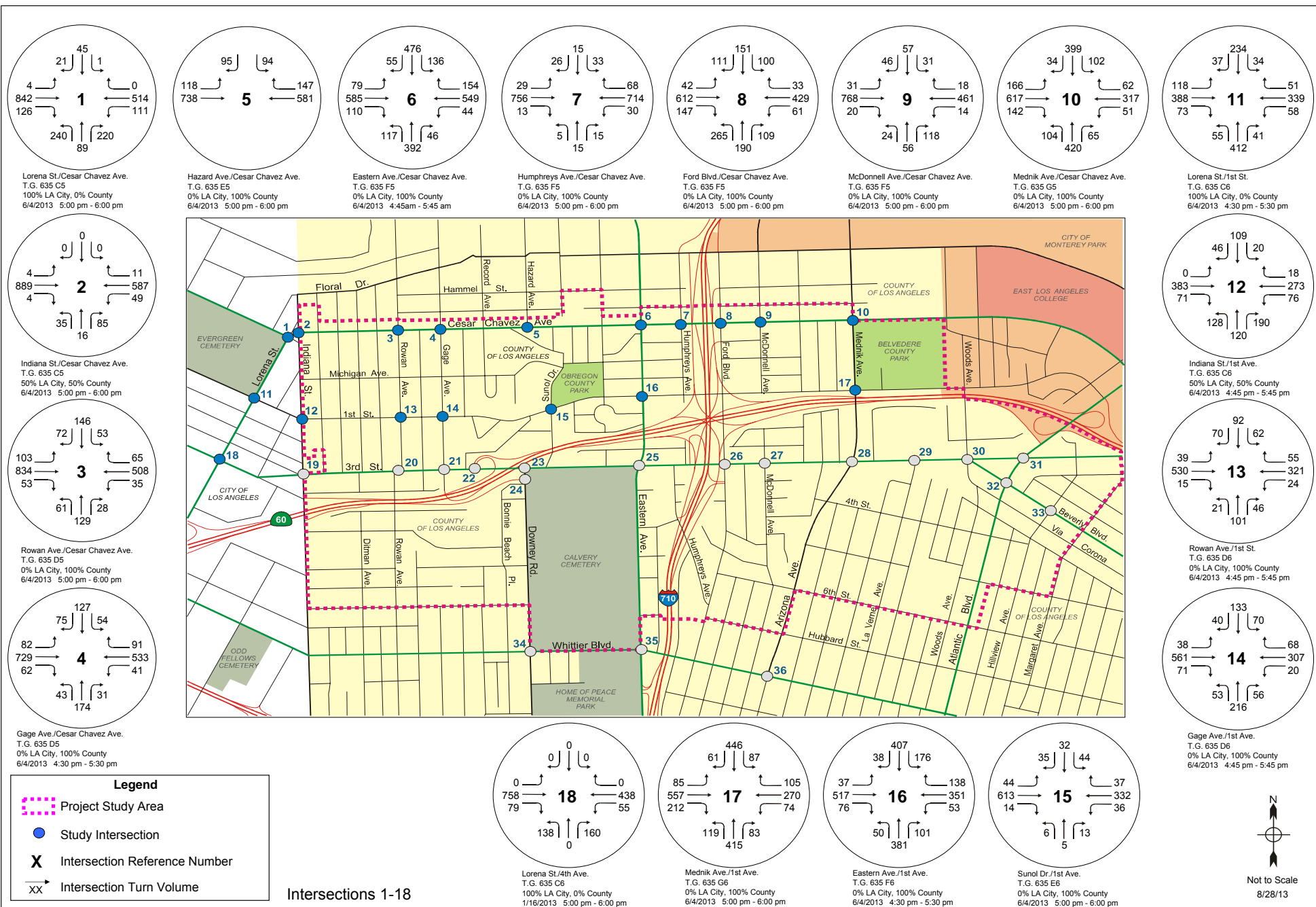
Note

* De facto right-turn lane assumed due to wide curb lane









4. Future (2035) Pre-Project Conditions

This section examines study area roadway network operations in the future buildout period (year 2035), with existing land use and estimated growth. This establishes a “pre-project” or baseline scenario for analysis of potential traffic impacts under the Specific Plan land use updates.

Traffic conditions with the proposed Specific Plan land uses are analyzed within Section 5 (study intersection operations) and Section 6 (impacts and mitigation measures) of this report.

A. Background Growth

To estimate future baseline conditions (future traffic volumes without the Specific Plan), existing volumes were increased by a growth rate determined by sub-regional growth estimates defined by the Metro Congestion Management Program (CMP) of 2010. Traffic growth through the year 2035 was applied, matching that of the regional traffic model maintained by SCAG. The CMP growth rates are based on results from a Metro adaptation of the regional traffic model.

The CMP defines anticipated area growth by Regional Statistical Area (RSA). RSA #21 – Vernon was used to define the applied area growth rates, as that area includes the East Los Angeles community. The growth rate for the area was determined to be 0.728 percent per year. That rate was compounded for the 22-year period between existing year-2013 and future year-2035 conditions, with a resulting factor of 1.173. This is equivalent to a 17.3 percent increase.

B. Cumulative Projects and Planned Roadway Facilities

Table 5 provides a list of cumulative/area projects identified near to the study area within both the County of Los Angeles and the City of Los Angeles, but not within the Specific plan area, and the related trip generation of each project based on the proposed use. Trip generation rates were applied based on *Trip Generation* (9th edition), published by the Institute of Transportation Engineers. The area projects are based on information provided by County Regional planning and LADOT Development Review.

Table 5 – Area/Cumulative Projects Trip Generation

Project Name		Location	Land use	Size	Units	Daily Total	AM Peak			PM Peak		
							In	Out	Total	In	Out	Total
1	Apartment building	1032 S Indiana St	Residential	3	DU	20	0	2	2	1	1	2
2	Apartment complex	4125 Whittier Blvd	Residential	25	DU	166	3	10	13	10	5	16
3	Apartment complex	658 S Ferris Av	Residential	21	DU	140	2	9	11	8	5	13
4	Healthcare center	4816 E 3rd St	Medical	24.800	KSF	199	10	10	20	10	14	24
5	Used auto sales dealership	5270 Pomona Blvd	Retail	1.625	KSF	52	2	1	3	2	3	4
6	Used auto sales dealership	5747 Whittier Blvd	Retail	8.306	KSF	268	12	4	16	9	13	22
	TOTALS:					845	29	36	65	40	40	80

DU = Dwelling units, KSF = 1,000 sq.ft. of floor area

The identified area projects would generate a total of 845 daily vehicle trips, including 65 trips in the a.m. peak hour and 80 trips in the p.m. peak hour. These generated trips were added to the study intersections as part of the analysis for this scenario, in addition to the growth rate applied to the existing traffic counts.

Planned bicycle facilities and roadway cross-sectional changes were considered for the pre-Project analysis. Proposed bicycle lane facilities were assumed to not affect study intersection configurations, as it is common for bicycle lanes and other facilities to blend with vehicle approach lanes at intersections.

A project to modify roadway cross-sections would occur on Downey Road within the study area. The Downey Road project would implement a “road diet” project that would reduce the number of through lanes from four to two.

The implementation of the Downey Road project was assumed to occur within the Specific Plan timeframe, by the buildout year analyzed for the proposed Specific Plan Project. The post-Project analysis therefore incorporates a reduction in through lanes at the applicable approaches to the Downey Road study intersections.

C. Study Intersection Operations

Intersection peak-hour performance and level of service values for the future (year 2035) pre-Project scenario are summarized within Table 6.

**Table 6 – Intersection Peak-Hour Level of Service –
Future (2035) Pre-Project Conditions**

Study Intersections		Weekday AM Peak Hour		Weekday PM Peak Hour	
		V/C Ratio or Delay (sec.)	LOS	V/C Ratio or Delay (sec.)	LOS
1	Brooklyn Pl-Lorena St & Cesar Chavez Ave	0.424	A	0.575	A
2	Indiana St & Cesar Chavez Ave *	17.7	D	78.5	F
3	Rowan St & Cesar Chavez Ave	0.882	D	0.881	D
4	Gage Ave & Cesar Chavez Ave	0.845	D	0.787	C
5	Hazard Ave & Cesar Chavez Ave	0.555	A	0.472	A
6	Eastern Ave & Cesar Chavez Ave	0.575	A	0.526	A
7	Humphreys Ave & Cesar Chavez Ave	0.437	A	0.282	A
8	Ford Blvd & Cesar Chavez Ave	0.814	D	0.731	C
9	McDonnell Ave & Cesar Chavez Ave	0.522	A	0.422	A
10	Mednik Ave & Cesar Chavez Ave	0.468	A	0.506	A
11	Lorena St & 1st St	0.640	B	0.692	B
12	Indiana St & 1st St	0.813	D	0.876	D
13	Rowan St & 1st St	0.516	A	0.454	A
14	Gage Ave & 1st St	0.619	B	0.601	B
15	Sunol Dr & 1st St	0.397	A	0.365	A
16	Eastern Ave & 1st St	0.655	B	0.599	A
17	Mednik Ave & 1st St	0.604	B	0.650	B
18	Lorena St & 4th St	0.389	A	0.395	A
19	Indiana St & 3rd St	0.744	C	0.783	C
20	Rowan St & 3rd St	0.630	B	0.670	B
21	Gage Ave & 3rd St	0.932	E	0.756	C
22	SR-60 WB on/off Ramps & 3rd St	0.766	C	0.739	C
23	Downey Rd & 3rd St	0.704	C	0.871	D
24	Downey Rd & SR 60 EB Off Ramp *	12.7	B	45.2	E
25	Eastern Ave & 3rd St	0.883	D	1.081	F
26	Ford Blvd & 3rd St	0.969	E	1.067	F
27	McDonnell Ave & 3rd St	0.500	A	0.605	B
28	Mednik Ave & 3rd St	0.967	E	0.987	E
29	La Verne Ave & 3rd St	0.641	B	0.460	A
30	Beverly Blvd-Woods Ave & 3rd St	37.2	C	35.2	C
31	Atlantic Blvd & 3rd St	0.711	C	0.716	C
32	Atlantic Blvd & Beverly Blvd	0.716	C	0.897	D
33	Hillview Ave & Beverly Blvd	0.520	A	0.656	B
34	Downey Rd & Whittier Blvd	0.606	B	0.794	C
35	Eastern Ave & Whittier Blvd	0.697	B	0.791	C
36	Arizona Ave & Whittier Blvd	0.459	A	0.764	C

V/C = Volume to Capacity Ratio, LOS = Level Of Service

* Unsignalized intersection. LOS is determined by average delay, in seconds, of approaching vehicles.

Based on the LOS summary for this scenario provided by Table 6, the following six intersections would operate at poor LOS values of E or F during one or both of the weekday peak hours:

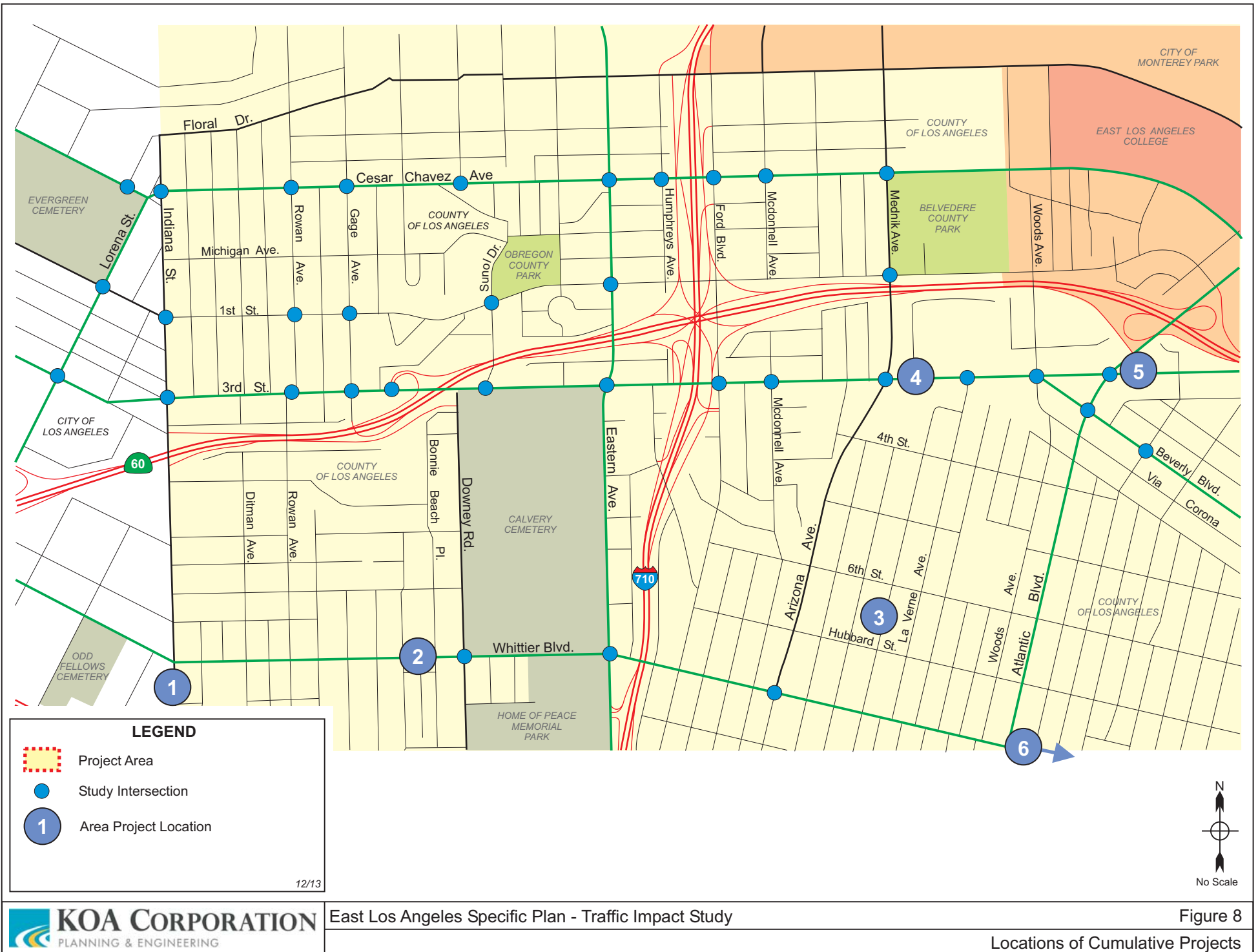
- Indiana St & Cesar Chavez Ave – Worsening from LOS E to F in the p.m. peak hour
- Gage Ave & 3rd St – Worsening from LOS C to E in the a.m. peak hour
- Downey Rd & SR-60 Eastbound Off-Ramp – Worsening from LOS C to E in the p.m. peak hour
- Eastern Ave & 3rd St – Worsening from LOS E to F in the p.m. peak hour
- Ford Blvd & 3rd St – Worsening within LOS E in the a.m. peak hour and from LOS C to F in the p.m. peak hour
- Mednik Ave & 3rd St – Worsening to LOS E in the a.m. and p.m. peak hours

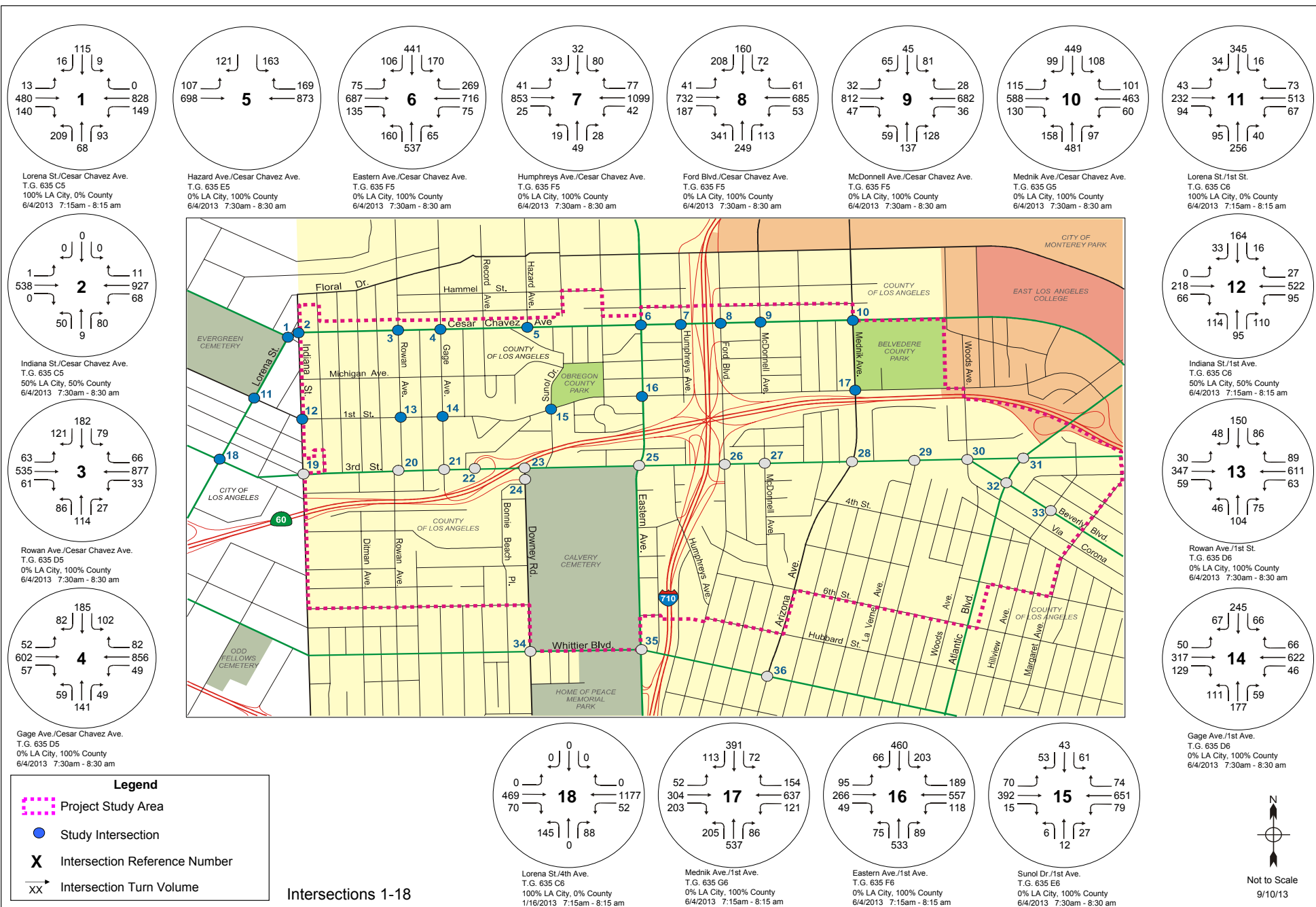
Each of these study intersections that would operate at LOS E or F during this scenario is on a major arterial, or at a freeway interchange, or is an unsignalized intersection with large delays for vehicles approaching from the minor/controlled roadway. These intersections will potentially operate at poor levels of service due to high traffic volumes on the primary arteries of the study area, as area growth occurs into the buildout year.

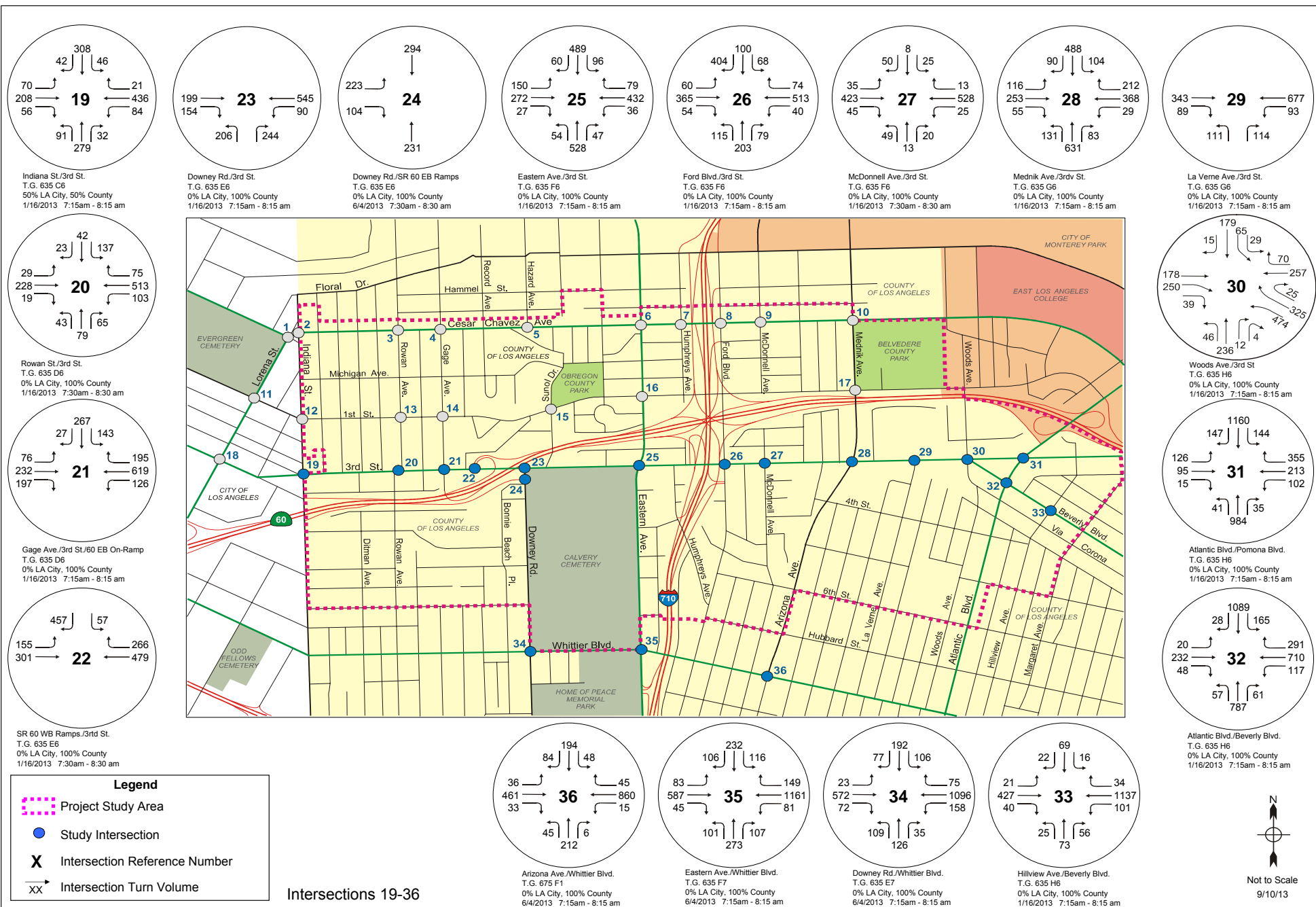
Figure 8 illustrates the locations of the cumulative/area projects included in the analysis.

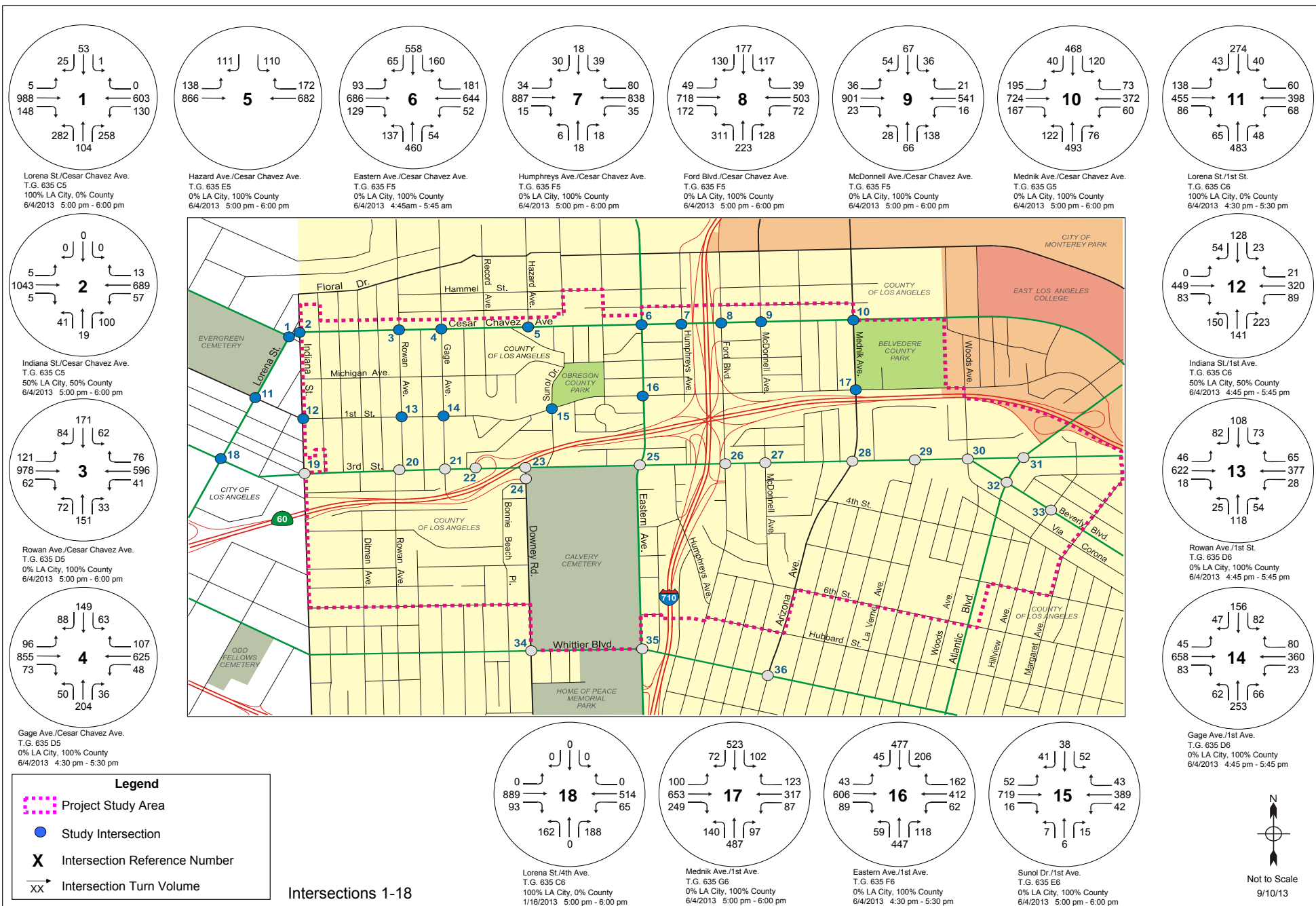
The a.m. peak-hour turning movement volumes at the study intersections for the analyzed scenario are provided on Figure 8A (north intersections) and Figure 9A (south intersections). The p.m. peak-hour turning movement volumes are provided on Figure 10A (north intersections) and Figure 10B (south intersections).

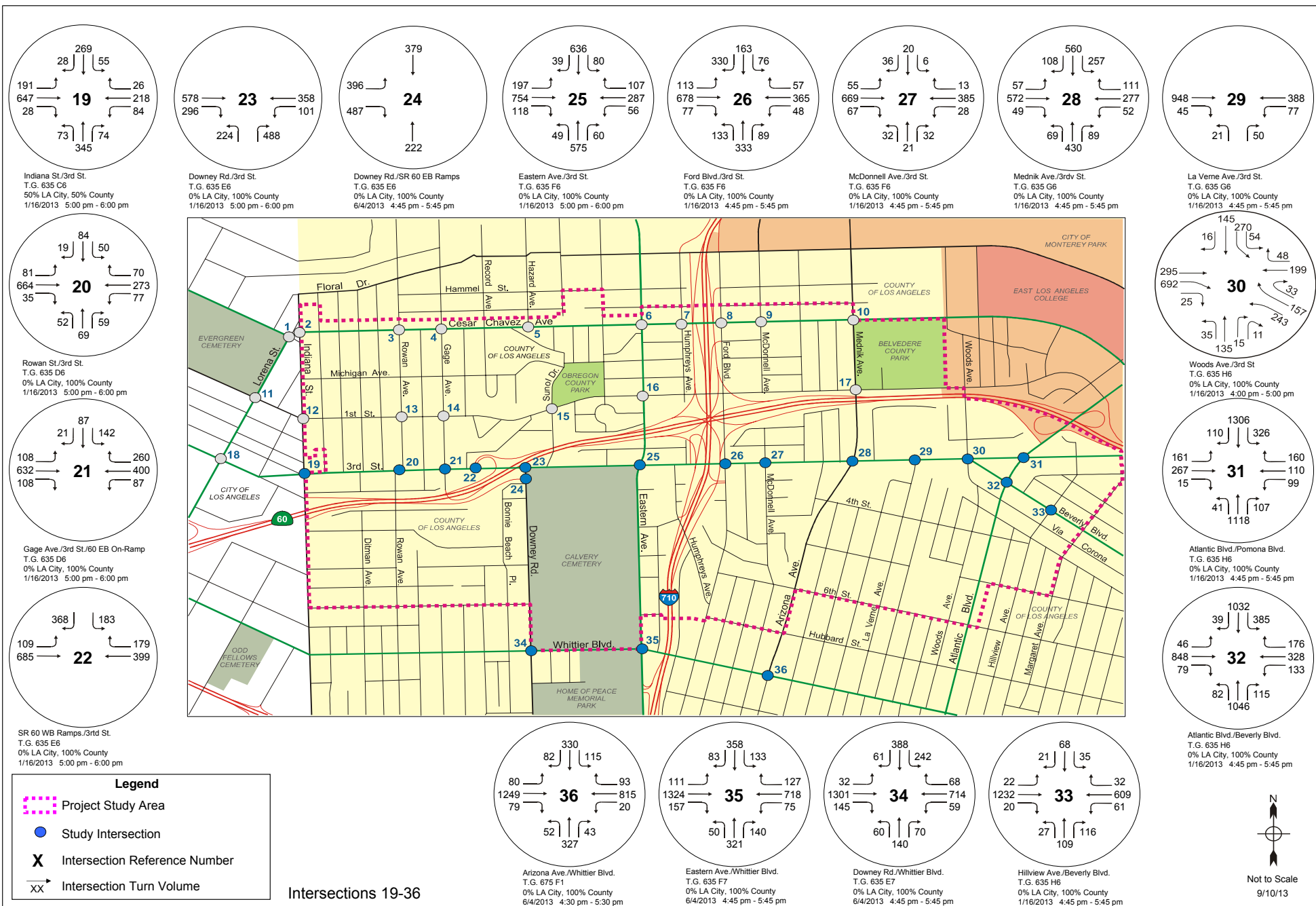
The level of service worksheets for this scenario are provided in Appendix C of this report.











5. Future (2035) Post-Project Conditions

This scenario includes background traffic growth and potential new area development under the proposed Specific Plan, in addition to other cumulative/area planned projects assumed to be built within the buildout timeframe.

Using the inputs of land use data from the Specific Plan process, this scenario estimates the effects of both regional development and population growth and the land use changes proposed for the Specific Plan area.

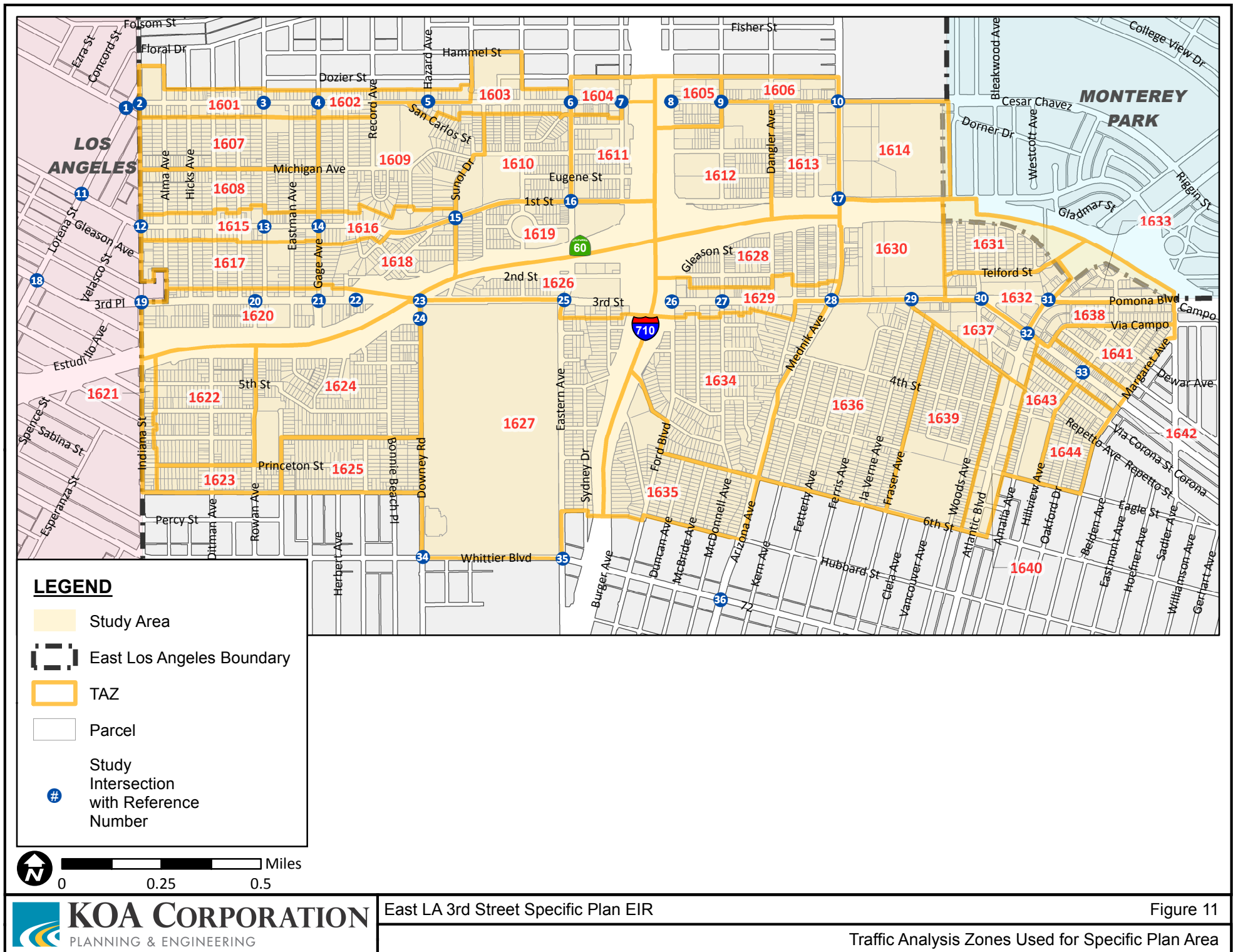
A. Anticipated Development under Specific Plan

KOA was provided details from the Specific Plan land use map, based on commercial floor area increases and residential unit increases in various areas of the study area. Trip generation for these land uses was analyzed and impacts were examined.

The development of a traffic forecast for a specific plan takes into account the type and density of future land uses within the analyzed area, and the location and potential interaction of various land use types, as well as the characteristics and capacity of each of the major roadways and intersections.

The incremental (net) development increase/decrease by Traffic Analysis Zone (TAZ) was derived by subtracting the intensity of the proposed Specific Plan land uses from that of the existing land uses. The changes in development intensities would include parcel turnover and redevelopment (recycling), as well as new development envisioned by the Specific Plan.

Figure 11 illustrates the Traffic Analysis Zone extents within the study area.



B. Projected Traffic Volumes

The potential development intensity changes – square feet of floor area for non-residential uses such as commercial and industrial, and number of units for residential uses – from the existing land uses to the proposed Specific Plan land uses are calculated below.

The trip generation changes due to incremental (net) development increase associated with the proposed Land Use Plan is summarized within Table 7. The increased development that would be allowed under the proposed Plan could, at maximum density, generate the following new vehicle trips:

- Commercial uses - 184,836 daily trips, including 3,855 in a.m. peak, 10,744 in p.m. peak
- Residential uses - 34,126 daily trips, including 2,336 in a.m. peak, 2,957 in p.m. peak

The maximum number of trips was analyzed in the impact analysis, in order to provide a conservative analysis of potential impacts of the Plan. Negative trip generation numbers within Table 7 are caused by reductions in overall trips, due to expected localized reductions in land use mix and intensity. “In” and “Out” designations refer to the relationship/direction of the trips to the generating uses.

The trip totals were calculated using rates for the various non-residential and residential land use types considered in the Land Use Plan, based on *Trip Generation* (9th edition), published by ITE. Internal trip capture reductions, for trips that would remain local to each TAZ area were included, which would constitute walking trips or trips by other non-vehicle modes due to attraction between commercial and residential uses. Internal trip capture reductions were taken based on *Trip Generation*.

Credits for transit use were taken based on trip generation and walking-distance proximity (assumed to be one-half of a mile for the analysis) to Metro Gold Line stations. Credit rates were taken from guidance within the Congestion management Program.

Trips were distributed to the study area based on directional distribution percentages from the local Regional Statistical Area (RSA), defined by the Metro regional planning model for the CMP. The distribution calculations and conglomeration based on cardinal directions are provided within a table in Appendix D.

**Table 7 – Trip Generation Change by Traffic
Analysis Zone (TAZ) – Peak Hours**

TAZ	COMMERCIAL NET TRIPS							RESIDENTIAL NET TRIPS						
	DAILY TOTAL	AM PEAK HOUR			PM PEAK HOUR			DAILY TOTAL	AM PEAK HOUR			PM PEAK HOUR		
		IN	OUT	TOTAL	IN	OUT	TOTAL		IN	OUT	TOTAL	IN	OUT	TOTAL
1601	13,268	172	106	278	340	367	707	2,556	37	146	183	154	83	237
1602	8,958	116	71	187	229	249	478	1,464	21	84	105	89	47	136
1603	9,173	119	73	192	235	254	489	1,393	20	80	100	84	44	128
1604	3,757	49	29	78	96	103	199	691	10	40	50	42	23	65
1605	4,005	52	32	84	102	111	213	852	11	49	60	51	26	77
1606	5,773	75	46	121	148	159	307	1,010	14	58	72	62	33	95
1607	523	6	4	10	22	24	46	378	6	24	30	27	14	41
1608	4,105	53	33	86	171	185	356	309	5	19	24	22	11	33
1609	0	0	0	0	0	0	0	349	4	13	17	9	5	14
1610	0	0	0	0	0	0	0	-86	-1	-2	-3	-1	0	-1
1611	0	0	0	0	0	0	0	-93	-1	-5	-6	-3	-2	-5
1612	0	0	0	0	0	0	0	405	5	21	26	21	10	31
1613	880	12	7	19	36	40	76	180	3	9	12	8	5	13
1614	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615	7,742	100	62	162	186	200	386	2,133	30	122	152	129	70	199
1616	7,391	97	59	156	198	214	412	882	12	48	60	48	27	75
1617	10,250	132	81	213	427	463	890	1,183	16	61	77	61	32	93
1618	597	8	4	12	25	28	53	218	2	7	9	3	1	4
1619	0	0	0	0	0	0	0	55	1	2	3	1	1	2
1620	26,062	336	205	541	625	677	1,302	3,451	49	197	246	209	113	322
1621	0	0	0	0	0	0	0	42	1	3	4	4	2	6
1622	0	0	0	0	0	0	0	-320	-4	-14	-18	-10	-5	-15

Table 7 (continued) – Trip Generation Change by Traffic Analysis Zone (TAZ) – Peak Hours

TAZ	COMMERCIAL NET TRIPS							RESIDENTIAL NET TRIPS						
	DAILY TOTAL	AM PEAK HOUR			PM PEAK HOUR			DAILY TOTAL	AM PEAK HOUR			PM PEAK HOUR		
		IN	OUT	TOTAL	IN	OUT	TOTAL		IN	OUT	TOTAL	IN	OUT	TOTAL
1623	0	0	0	0	0	0	0	-163	-2	-9	-11	-7	-4	-11
1624	0	0	0	0	0	0	0	520	4	18	22	8	4	12
1625	0	0	0	0	0	0	0	63	-1	-5	-6	-12	-6	-18
1626	13,042	169	103	272	313	339	652	1,417	19	81	100	85	46	131
1627	0	0	0	0	0	0	0	162	4	12	16	16	9	25
1628	2,326	30	19	49	97	105	202	638	8	32	40	30	16	46
1629	11,670	151	92	243	280	303	583	1,869	26	106	132	111	60	171
1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1631	0	0	0	0	0	0	0	453	6	25	31	25	13	38
1632	10,685	138	84	222	256	278	534	1,965	27	112	139	119	63	182
1633	2,340	30	18	48	57	60	117	778	11	44	55	46	25	71
1634	6,631	86	53	139	276	299	575	1,964	25	100	125	97	52	149
1635	0	0	0	0	0	0	0	-254	-3	-11	-14	-7	-4	-11
1636	5,428	70	44	114	226	245	471	1,167	12	50	62	38	21	59
1637	17,109	220	136	356	410	445	855	2,588	37	147	184	157	84	241
1638	4,883	63	38	101	117	127	244	994	13	55	68	58	30	88
1639	0	0	0	0	0	0	0	476	5	22	27	18	9	27
1640	3,539	46	28	74	91	97	188	1,700	25	97	122	102	56	158
1641	0	0	0	0	0	0	0	-343	-7	-28	-35	-33	-18	-51
1642	4,699	61	37	98	196	213	409	1,026	14	58	72	63	33	96
1643	0	0	0	0	0	0	0	-62	-1	-5	-6	-7	-3	-10
1644	0	0	0	0	0	0	0	116	2	8	10	9	5	14
Total	184,836	2,391	1,464	3,855	5,159	5,585	10,744	34,126	465	1,871	2,336	1,926	1,031	2,957

C. Study Intersection Operations Analysis

A level of service analysis was conducted based on the analysis of future post-Project conditions, based on the addition of trips anticipated to be generated by the proposed Specific Plan land use changes.

The results of the analysis for this scenario are provided within Table 8. Intersections that would operate at LOS values of E or F are indicated by highlighted cells.

**Table 8 – Study Intersection Operations – Future (2035)
Post-Project Conditions**

Study Intersections		Weekday AM Peak Hour		Weekday PM Peak Hour	
		V/C Ratio	LOS	V/C Ratio	LOS
1	Brooklyn Pl-Lorena St & Cesar Chavez Ave	0.563	A	0.918	E
2	Indiana St & Cesar Chavez Ave *	>100 sec.	F	>100 sec.	F
3	Rowan St & Cesar Chavez Ave	1.110	F	1.405	F
4	Gage Ave & Cesar Chavez Ave	1.112	F	1.451	F
5	Hazard Ave & Cesar Chavez Ave	0.858	D	1.242	F
6	Eastern Ave & Cesar Chavez Ave	0.745	C	0.964	E
7	Humphreys Ave & Cesar Chavez Ave	0.614	B	0.729	C
8	Ford Blvd & Cesar Chavez Ave	1.044	F	1.322	F
9	McDonnell Ave & Cesar Chavez Ave	0.678	B	0.791	C
10	Mednik Ave & Cesar Chavez Ave	0.659	B	0.926	E
11	Lorena St & 1st St	0.772	C	1.051	F
12	Indiana St & 1st St	1.091	F	1.688	F
13	Rowan St & 1st St	0.950	E	1.236	F
14	Gage Ave & 1st St	1.079	F	1.361	F
15	Sunol Dr & 1st St	0.787	C	0.964	E
16	Eastern Ave & 1st St	1.118	F	1.335	F
17	Mednik Ave & 1st St	0.747	C	0.939	E
18	Lorena St & 4th St	0.449	A	0.847	D
19	Indiana St & 3rd St	1.023	F	1.444	F
20	Rowan St & 3rd St	1.080	F	1.596	F
21	Gage Ave & 3rd St	1.401	F	1.789	F
22	SR-60 WB on/off Ramps & 3rd St	1.205	F	1.609	F
23	Downey Rd & 3rd St	1.085	F	1.581	F
24	Downey Rd & SR 60 EB Off Ramp *	20.8	C	>100 sec.	F
25	Eastern Ave & 3rd St	1.341	F	2.030	F
26	Ford Blvd & 3rd St	1.411	F	2.001	F
27	McDonnell Ave & 3rd St	0.960	E	1.733	F
28	Mednik Ave & 3rd St	1.345	F	1.924	F
29	La Verne Ave & 3rd St	0.954	E	0.985	E
30	Beverly Blvd-Woods Ave & 3rd St	65.0	F	>100 sec.	N/A
31	Atlantic Blvd & 3rd St	1.205	F	1.518	F
32	Atlantic Blvd & Beverly Blvd	0.873	D	1.326	F
33	Hillview Ave & Beverly Blvd	0.594	A	0.851	D
34	Downey Rd & Whittier Blvd	0.763	C	1.232	F
35	Eastern Ave & Whittier Blvd	0.850	D	1.174	F
36	Arizona Ave & Whittier Blvd	0.658	B	1.283	F

V/C = Volume to Capacity Ratio, LOS = Level Of Service

* Unsignalized intersection. LOS is determined by average delay in seconds of approaching vehicles.

With the intensities of development under the proposed Land Use Plan, the data within Table 8 indicates that 31 of the 36 study intersections would operate at poor LOS values of E or F during the peak hours, and 26 of these intersections would operate at deficient LOS F. The following intersections would worsen to or within LOS E or F due to the proposed Specific Plan Land Use:

- Indiana St & Cesar Chavez Ave – Worsening from LOS D to F in the a.m. peak hour and within LOS F in the p.m. peak hour
- Rowan St & Cesar Chavez Ave – Worsening from LOS D to F in both the a.m. and p.m. peak hours
- Gage Ave & Cesar Chavez Ave – Worsening from LOS D to F in the a.m. peak hour and from LOS C to F in the p.m. peak hour
- Gage Ave & Cesar Chavez Ave – Worsening from LOS D to F in the a.m. peak hour and from LOS C to F in the p.m. peak hour
- Hazard Ave & Cesar Chavez Ave – Worsening from LOS A to D in the a.m. peak hour and from LOS A to F in the p.m. peak hour
- Eastern Ave & Cesar Chavez Ave – Worsening from LOS A to E in the p.m. peak hour
- Ford Blvd & Cesar Chavez Ave – Worsening from LOS D to F in the a.m. peak hour and from LOS C to F in the p.m. peak hour
- Mednik Ave & Cesar Chavez Ave – Worsening from LOS A to E in the p.m. peak hour
- Lorena St & 1st St – Worsening from LOS B to F in the p.m. peak hour
- Indiana St & 1st St – Worsening from LOS D to F in both the a.m. and p.m. peak hours
- Rowan St & 1st St – Worsening from LOS A to E in the a.m. peak hour and from LOS A to F in the p.m. peak hour
- Gage Ave & 1st St – Worsening from LOS B to F in both the a.m. and p.m. peak hours
- Sunol Dr & 1st St – Worsening from A to E in the p.m. peak hour
- Eastern Ave & 1st St – Worsening from LOS B to F in the a.m. peak hour and from LOS A to F in the p.m. peak hour
- Mednik Ave & 1st St – Worsening from B to E in the p.m. peak hour
- Indiana St & 3rd St – Worsening from LOS C to F in both the a.m. and p.m. peak hours
- Rowan St & 3rd St – Worsening from LOS B to F in both the a.m. and p.m. peak hours
- Gage Ave & 3rd St – Worsening from LOS E to F in the a.m. peak hour and from LOS C to F in the p.m. peak hour
- SR-60 WB On/Off Ramps & 3rd St – Worsening from LOS C to F in both the a.m. and p.m. peak hours
- Downey Rd & 3rd St – Worsening from LOS C to F in both the a.m. and p.m. peak hours
- Downey Rd & SR-60 EB Off Ramp – Worsening from E to F in the p.m. peak hour
- Eastern Ave & 3rd St – Worsening from LOS D to F in the a.m. peak hour and within LOS F in the p.m. peak hour
- Ford Blvd & 3rd St – Worsening from LOS E to F in the a.m. peak hour and within LOS F in the p.m. peak hour
- McDonnell Ave & 3rd St – Worsening from LOS A to E in the a.m. peak hour and from LOS B to F in the p.m. peak hour
- Mednik Ave & 3rd St – Worsening from LOS E to F in both the a.m. and p.m. peak hours
- La Verne Ave & 3rd St – Worsening from LOS B to E in the a.m. peak hour and from LOS A to E in the p.m. peak hour
- Beverly Blvd-Woods Ave & 3rd St – Worsening from LOS C to E in the a.m. peak hour and from LOS C to F in the p.m. peak hour

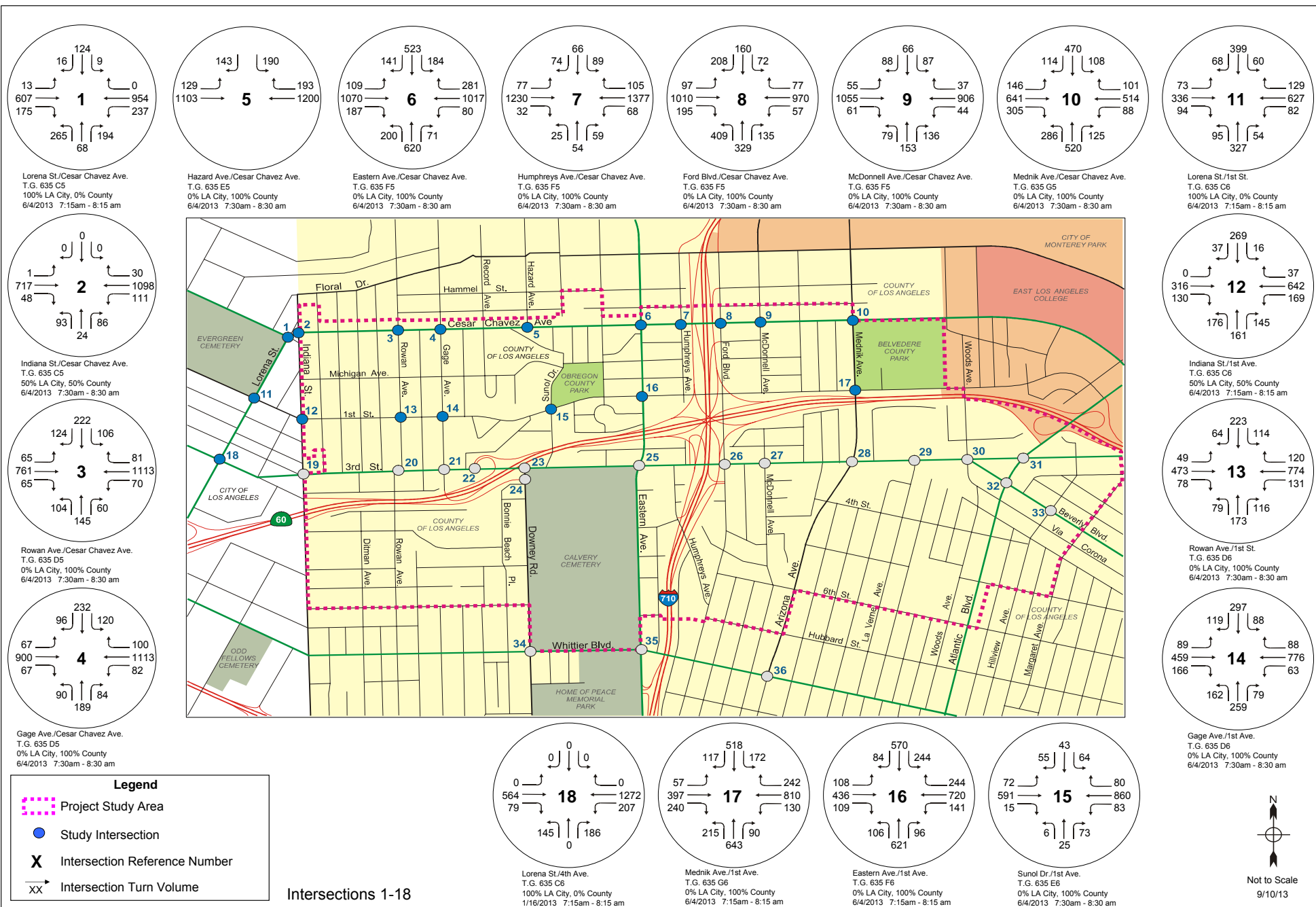
- Atlantic Blvd & 3rd St – Worsening from LOS C to F in both the a.m. and p.m. peak hours
- Atlantic Blvd & Beverly Blvd – Worsening from LOS D to F in the p.m. peak hour
- Downey Rd & Whittier Blvd – Worsening from LOS D to F in the p.m. peak hour
- Eastern Ave & Whittier Blvd – Worsening from LOS D to F in the p.m. peak hour
- Arizona Ave & Whittier Blvd – Worsening from LOS D to F in the p.m. peak hour

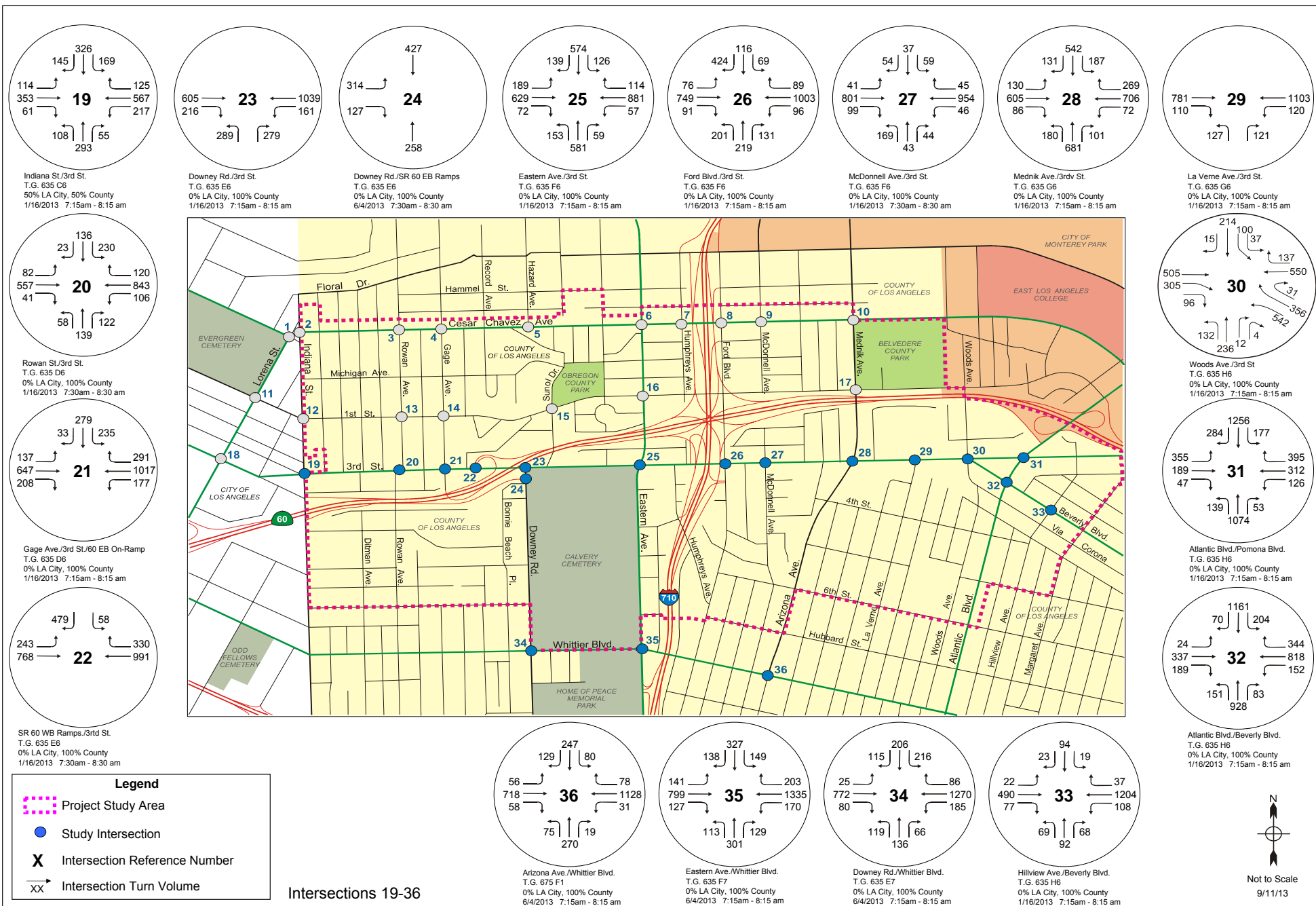
The number of study intersections operating at LOS E or F during peak hours would increase due to the proposed Land Use Plan, over future baseline conditions without the Plan, due to planned changes in permitted development intensity.

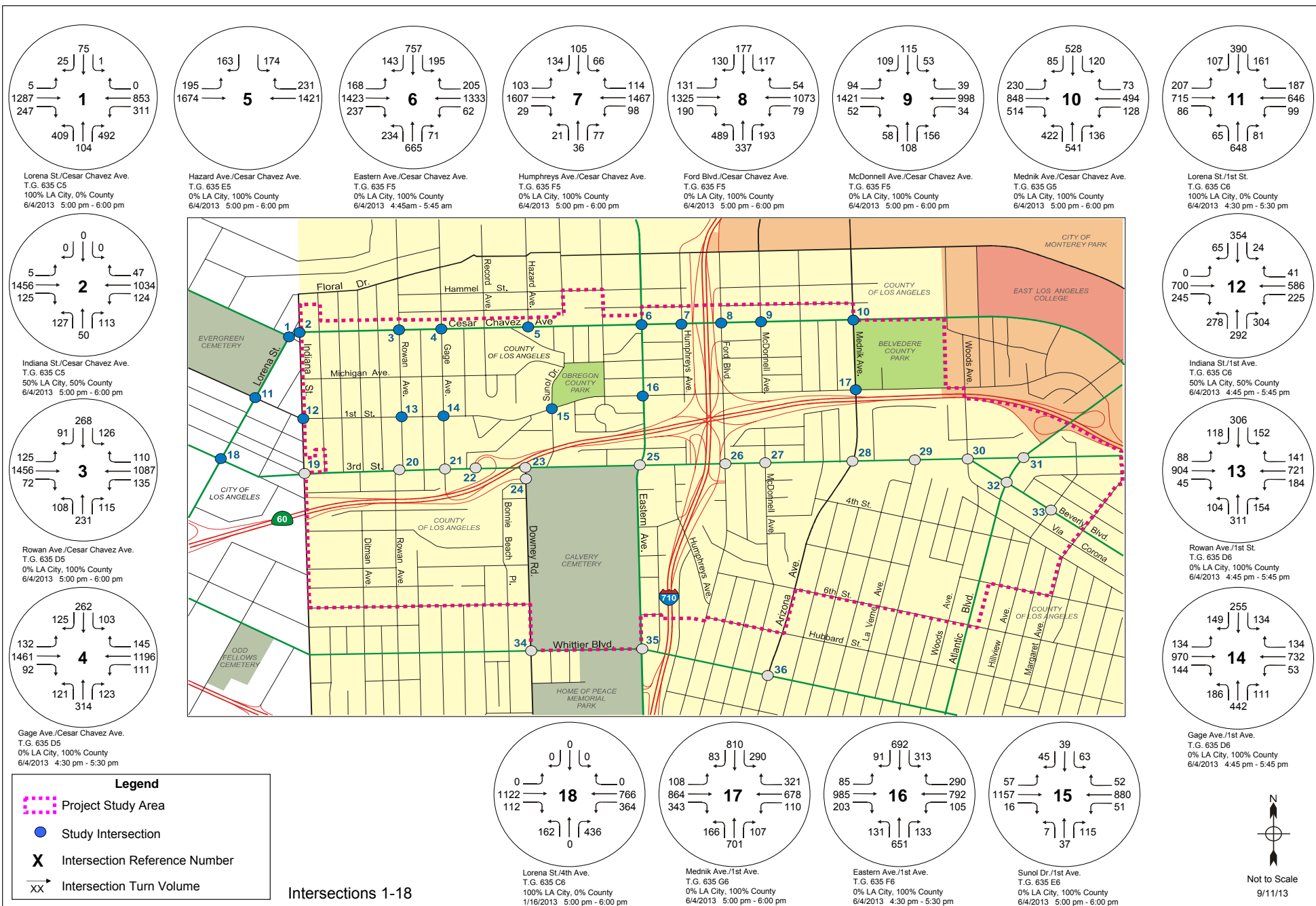
Each of these study intersections that would operate at LOS E or F during this scenario is on a major arterial, or on a freeway interchange, or is unsignalized intersection with large delays for vehicles approaching from the minor/controlled roadway. Worsening of operations would be caused by the Specific Plan at many intersections along commercial corridors of the Specific plan area.

The a.m. peak-hour turning movement volumes at the study intersections for the analyzed scenario are provided on Figure 12A (north intersections) and Figure 12B (south intersections). The p.m. peak-hour turning movement volumes are provided on Figure 13A (north intersections) and Figure 32 (south intersections). Figure 13B illustrates the peak-hour level of service values at the study intersections.

The level-of-service worksheets for this scenario are provided in Appendix E of this report.







6. Program Impacts and Mitigation Measures

This section evaluates the impact of incremental traffic growth between the future pre-Project (baseline) and future post-Project (with proposed Specific Plan) scenarios. To ensure that adequate mobility is maintained within a Specific Plan or General Plan project area, locations are typically identified for potential improvements, where cumulative impacts of future land use changes would occur over the timespan of the plan.

These improvements would then be implemented as new development occurs, as they become justified and are physically and financially feasible within the scope of individual projects.

This report section provides a discussion of significant impacts at the program level (all potential future land use changes under the Specific Plan) at the study intersections, and a framework for implementation of program-level mitigation measures to be implemented over multiple years that would mitigate the identified significant traffic impacts.

A. Significant Impact Standards

A significant impact is normally defined when new vehicle trips generated by a specific project or groups of projects would cause level of service values, volume-to-capacity ratios, or other measured variables to deteriorate below a minimum acceptable threshold or increase by a set maximum amount. These thresholds and maximums are specified by the local agency.

The performance standards used to evaluate traffic volumes and design capacities on the study area roadway system were based on peak-hour operations of the analyzed study intersections.

The evaluation of traffic impacts was based on the jurisdictional location of each study intersection. Significant traffic impact guidelines of the County of Los Angeles and the City of Los Angeles are documented below. Intersections on the boundary of or within the City were analyzed using the City guidelines. These intersections are located on the west end of the Specific Plan study area.

County of Los Angeles

The County of Los Angeles Department of Public Works has established specific thresholds for Project-related increases in the volume-to-capacity ratio (V/C) of study intersections. The following increases in peak hour V/C ratios are considered significant impacts:

Level of Service	Pre-Project V/C*	Project Related v/c increase
A/B	0.00 to 0.70	Causing V/C to increase to 0.75 or worse
C	< 0.70 – 0.80	Equal to or greater than 0.040
D	< 0.80 – 0.90	Equal to or greater than 0.020
E and F	0.90 or more	Equal to or greater than 0.010

* Pre-project V/C is based on future volumes with ambient growth only.

City of Los Angeles

The City of Los Angeles Department of Transportation (LADOT) has established specific thresholds for project related increases in the volume-to-capacity ratio (V/C) of study intersections. The following increases in peak-hour V/C ratios are considered significant impacts:

Level of Service	Final V/C*	Project Related v/c increase
C	< 0.70 – 0.80	Equal to or greater than 0.040
D	< 0.80 – 0.90	Equal to or greater than 0.020
E and F	0.90 or more	Equal to or greater than 0.010

Note: Final V/C is the V/C ratio, considering impacts from the project, ambient growth and cumulative projects.

Mitigation measures are also required, based on the County CMP guidelines, if approval and construction of a project will result in significantly worsened operations within the Level of Service value of F.

Mitigation measures for an area plan should also be considered when traffic conditions are forecasted to decline to levels of service that are defined as deficient by the local agency. Any worsening of operations at a study intersection to LOS E (nearing capacity) or LOS F (at or over capacity) was also considered to be significant for purposes of this traffic analysis.

Qualification of these significance standards, for locations within the County of Los Angeles, is provided by the Public Review Draft of the 2014 Los Angeles County General Plan. The circulated document has specific guidance on mitigation at poor levels of service that has been considered within this document. The General plan is not yet adopted by the County, but the goals and policies within that document have served to guide the conclusions of this document.

The draft general plan policies support alternatives modes of transportation, a quality walking environment, investments in transit, and specifically for proposed policy M4.7 states the following: “Maintain a minimum LOS D, where feasible; however, allow LOS below D on a case by case basis in order to further other General Plan goals and policies, such as those related to environmental protection, infill development, and active transportation.”

The Public Review Draft of the General Plan also states in Policy M4.6: “Support alternative LOS standards that account for a multimodal transportation system”, allowing for incorporation of all major travel modes into future traffic analyses undertaken for development projects within the Specific Plan area.

B. Significant Traffic Impact Determinations

The determination of significant impacts of the proposed Specific Plan land uses at the study intersections, by the future analysis year of 2035, is summarized within Table 9.

Out of the total of 36 study intersections, operations at the following number of intersections would worsen to or within deficient LOS values of E or F, due to anticipated new trips that would be

generated by the proposed maximum land uses allowed under the proposed Land Use Plan:

- In the AM peak hour – 20 intersections
- In the PM peak hour – 33 intersections
- In either the AM or PM peak hour – 33 intersections

All of the significantly-impacted study intersections would have impacts within the PM peak hour.

The recommended mitigation measures and their estimated effect on LOS values are summarized in Table 10 (a.m. peak) and Table 11 (p.m. peak). Mitigations and related improvements in LOS are listed within each table. Residual impacts that would be continue to significant and unavoidable were identified for the analyzed locations.

Table 9 – Significant Study Area Traffic Impacts

Study Intersections	Peak Hour	Existing 2013 Conditions		Future 2035 Pre-Project Conditions		Future 2035 Post-Project Conditions		Change in V/C Ratio	Signif Impact?
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS		
1 Brooklyn Pl- Lorena St & Cesar Chavez Ave ***	AM	0.347	A	0.424	A	0.563	A	0.139	No
	PM	0.475	A	0.575	A	0.918	E	0.343	YES
2 Indiana St & Cesar Chavez Ave *	AM	19.3	C	17.7	D	>100 sec.	F	#	YES
	PM	35.3	E	78.5	F	>100 sec.	F	#	YES
3 Rowan St & Cesar Chavez Ave	AM	0.837	D	0.882	D	1.110	F	0.228	YES
	PM	0.836	D	0.881	D	1.405	F	0.524	YES
4 Gage Ave & Cesar Chavez Ave	AM	0.806	D	0.845	D	1.112	F	0.267	YES
	PM	0.756	C	0.787	C	1.451	F	0.664	YES
5 Hazard Ave & Cesar Chavez Ave	AM	0.558	A	0.555	A	0.858	D	0.303	No
	PM	0.488	A	0.472	A	1.242	F	0.770	YES
6 Eastern Ave & Cesar Chavez Ave	AM	0.575	A	0.575	A	0.745	C	0.170	No
	PM	0.534	A	0.526	A	0.964	E	0.438	YES
7 Humphreys Ave & Cesar Chavez Ave	AM	0.458	A	0.437	A	0.614	B	0.177	No
	PM	0.333	A	0.282	A	0.729	C	0.447	No
8 Ford Blvd & Cesar Chavez Ave	AM	0.779	C	0.814	D	1.044	F	0.230	YES
	PM	0.708	C	0.731	C	1.322	F	0.591	YES
9 McDonnell Ave & Cesar Chavez Ave	AM	0.531	A	0.522	A	0.678	B	0.156	No
	PM	0.445	A	0.422	A	0.791	C	0.369	No
10 Mednik Ave & Cesar Chavez Ave	AM	0.484	A	0.468	A	0.659	B	0.191	No
	PM	0.517	A	0.506	A	0.926	E	0.420	YES
11 Lorena St & 1st St ***	AM	0.553	A	0.640	B	0.772	C	0.132	YES
	PM	0.597	A	0.692	B	1.051	F	0.359	YES
12 Indiana St & 1st St ***	AM	0.715	C	0.813	D	1.091	F	0.278	YES
	PM	0.769	C	0.876	D	1.688	F	0.812	YES
13 Rowan St & 1st St	AM	0.440	A	0.516	A	0.950	E	0.434	No
	PM	0.387	A	0.454	A	1.236	F	0.782	YES
14 Gage Ave & 1st St	AM	0.528	A	0.619	B	1.079	F	0.460	No
	PM	0.513	A	0.601	B	1.361	F	0.760	YES
15 Sunol Dr & 1st St	AM	0.339	A	0.397	A	0.787	C	0.390	No
	PM	0.311	A	0.365	A	0.964	E	0.599	YES
16 Eastern Ave & 1st St	AM	0.558	A	0.655	B	1.118	F	0.463	YES
	PM	0.511	A	0.599	A	1.335	F	0.736	YES
17 Mednik Ave & 1st St	AM	0.514	A	0.604	B	0.747	C	0.143	No
	PM	0.554	A	0.650	B	0.939	E	0.289	YES
18 Lorena St & 4th St ***	AM	0.317	A	0.389	A	0.449	A	0.060	No
	PM	0.322	A	0.395	A	0.847	D	0.452	YES

V/C = Volume to Capacity Ratio, LOS = Level Of Service

* The HCM unsignalized methodology was applied to these locations, with LOS determined by the average delay output in seconds per approaching vehicle.

** HCM signalized methodology, using Synchro program for five-legged intersection.

*** Intersection is located within City of Los Angeles, or on City/County border. Impact standards based on LADOT Traffic Study Guidelines. V/C values at here were reduced by 1.00, based on City plan to provide ATSC/ATCS signal synchronization technology at all signalized intersections by the year 2016.

Significance of impacts at the unsignalized intersections, and the five-legged signalized intersection was determined by worsening to or within LOS E or F, and additional signal warrant information was considered for the unsignalized locations.

Table 9 – Significant Study Area Traffic Impacts (continued)

Study Intersections	Peak Hour	Existing 2013 Conditions		Future 2035 Pre-Project Conditions		Future 2035 Post-Project Conditions		Change in V/C Ratio	Signif Impact?
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS		
19 Indiana St & 3rd St ***	AM	0.656	B	0.744	C	1.023	F	0.279	YES
	PM	0.690	B	0.783	C	1.444	F	0.661	YES
20 Rowan St & 3rd St	AM	0.537	A	0.630	B	1.080	F	0.450	No
	PM	0.571	A	0.670	B	1.596	F	0.926	YES
21 Gage Ave & 3rd St	AM	0.794	C	0.932	E	1.401	F	0.469	YES
	PM	0.644	B	0.756	C	1.789	F	1.033	YES
22 SR-60 WB On/Off Ramps & 3rd St	AM	0.653	B	0.766	C	1.205	F	0.439	YES
	PM	0.630	B	0.739	C	1.609	F	0.870	YES
23 Downey Rd & 3rd St	AM	0.622	B	0.704	C	1.085	F	0.381	YES
	PM	0.764	C	0.871	D	1.581	F	0.710	YES
24 Downey Rd & SR-60 EB Off Ramp *	AM	11.6	B	12.7	B	20.8	C	#	YES
	PM	22.2	C	45.2	E	>100 sec.	F	#	YES
25 Eastern Ave & 3rd St	AM	0.775	C	0.883	D	1.341	F	0.458	YES
	PM	0.943	E	1.081	F	2.030	F	0.949	YES
26 Ford Blvd & 3rd St	AM	0.697	B	0.969	E	1.411	F	0.442	YES
	PM	0.779	C	1.067	F	2.001	F	0.934	YES
27 McDonnell Ave & 3rd St	AM	0.424	A	0.500	A	0.960	E	0.460	YES
	PM	0.513	A	0.605	B	1.733	F	1.128	YES
28 Mednik Ave & 3rd St	AM	0.692	B	0.967	E	1.345	F	0.378	YES
	PM	0.710	C	0.987	E	1.924	F	0.937	YES
29 La Verne Ave & 3rd St	AM	0.540	A	0.641	B	0.954	E	0.313	YES
	PM	0.386	A	0.460	A	0.985	E	0.525	YES
30 Beverly Blvd-Woods Ave & 3rd St **	AM	23.3	C	37.2	C	65.0	E	#	YES
	PM	23.3	C	35.2	C	>100 sec.	F	#	YES
31 Atlantic Blvd & 3rd St	AM	0.683	B	0.711	C	1.205	F	0.494	YES
	PM	0.692	B	0.716	C	1.518	F	0.802	YES
32 Atlantic Blvd & Beverly Blvd	AM	0.696	B	0.716	C	0.873	D	0.157	YES
	PM	0.848	D	0.897	D	1.326	F	0.429	YES
33 Hillview Ave & Beverly Blvd	AM	0.441	A	0.520	A	0.594	A	0.074	No
	PM	0.554	A	0.656	B	0.851	D	0.195	No
34 Downey Rd & Whittier Blvd	AM	0.515	A	0.606	B	0.763	C	0.157	No
	PM	0.675	B	0.794	C	1.232	F	0.438	YES
35 Eastern Ave & Whittier Blvd	AM	0.594	A	0.697	B	0.850	D	0.153	No
	PM	0.670	B	0.791	C	1.174	F	0.383	YES
36 Arizona Ave & Whittier Blvd	AM	0.391	A	0.459	A	0.658	B	0.199	No
	PM	0.650	B	0.764	C	1.283	F	0.519	YES

V/C = Volume to Capacity Ratio, LOS = Level Of Service

* The HCM unsignalized methodology was applied to these locations, with LOS determined by the average delay output in seconds per approaching vehicle.

** HCM signalized methodology, using Synchro program for five-legged intersection.

*** Intersection is located within City of Los Angeles, or on City/County border. Impact standards based on LADOT Traffic Study Guidelines. V/C values at here were reduced by 1.00, based on City plan to provide ATIS/ATCS signal synchronization technology at all signalized intersections by the year 2016.

Significance of impacts at the unsignalized intersections, and the five-legged signalized intersection was determined by worsening to or within LOS E or F, and additional signal warrant information was considered for the unsignalized locations.

C. Significant Traffic Impacts – Supplement County Thresholds Analysis

A supplemental analysis was undertaken for study intersections located on the jurisdictional border of the City of Los Angeles and the County of Los Angeles. The previous sub-section of this report analyzed impacts at most study intersections using County impact standards. For those intersections within the City or on the City/County border, however, impacts were analyzed using City guidelines as they represent a more conservative look at impacts (using post-project LOS as one determinant of significance).

Table 10 provides an analysis of study intersections located on the City/County border, using County significant impact guidelines. Significance under City or County guidelines is the same for these locations, as worsening of operations to or within LOS values of E or F was also considered to be significant for this analysis.

Table 10 – Significant Study Area Traffic Impacts – Supplemental Analysis

Study Intersections		Peak Hour	Existing 2013 Conditions		Future 2035 Growth Only		Future 2035 Cumulative Projects		Change in V/C Ratio	Signif Impact?
			V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS		
2	Indiana St & Cesar Chavez Ave *	AM	19.3	C	17.7	D	>100 sec.	F	#	YES
		PM	35.3	E	78.5	F	>100 sec.	F	#	YES
12	Indiana St & 1st St	AM	0.715	C	0.813	D	1.091	F	0.278	YES
		PM	0.769	C	0.876	D	1.688	F	0.812	YES
19	Indiana St & 3rd St	AM	0.656	B	0.744	C	1.023	F	0.279	YES
		PM	0.690	B	0.783	C	1.444	F	0.661	YES

V/C = Volume to Capacity Ratio, LOS = Level Of Service

* HCM Unsignalized Methodology

Unsignalized study intersections were analyzed using HCM and the average delay output, in seconds, per approaching vehicle. Significance was determined by worsening to or within LOS E or F, and additional signal warrant information was considered for the unsignalized locations.

Identified mitigation measures for Specific Plan significant impacts are provided in Table 11. Feasible mitigation measures that physically add capacity to the study intersections were not identified. The number of mitigated intersections, therefore, was limited to the two significantly-impacted unsignalized study intersections.

Residual impacts of the Specific Plan would remain. Methods to fill this gap in identified mitigation measures are discussed after the table.

Table II – Recommended Study Intersection Mitigation Measures and Effects –

Study Intersections	Peak Hour	Future 2035 Pre-Project Conditions		Future 2035 Post-Project Conditions		Change in V/C Ratio	Signif Impact?	Recommended Mitigation Measures	Future 2035 Post-Project Conditions		Change in V/C Ratio	Impact Remains?
		V/C Ratio	LOS	V/C Ratio	LOS				V/C Ratio	LOS		
2 Indiana St & Cesar Chavez Ave	AM	17.7	D	>100 sec.	F	#	YES	Signalization	0.512	A	N/A #	No
	PM	78.5	F	>100 sec.	F	#	YES		0.809	D	N/A #	No
24 Downey Rd & SR-60 EB Off Ramp	AM	12.7	B	20.8	C	#	YES	Signalization	0.443	A	N/A #	No
	PM	45.2	E	>100 sec.	F	#	YES		0.861	D	N/A #	No

V/C = Volume to Capacity Ratio, LOS = Level Of Service

Significance of impacts at the unsignalized intersections was determined by worsening to or within LOS E or F, and additional signal warrant information was considered for the unsignalized locations.

The identified residual impacts would be mitigated as each individual development proposal is analyzed for potential traffic impacts during the entitlement process. Fair-share contributions could be made for these improvements until funding is fully available for implementation of the future identified mitigation measure. Construction plans would need to be completed for each physical improvement before implementation.

Figure 14 illustrates the locations of the significantly-impacted study intersections.

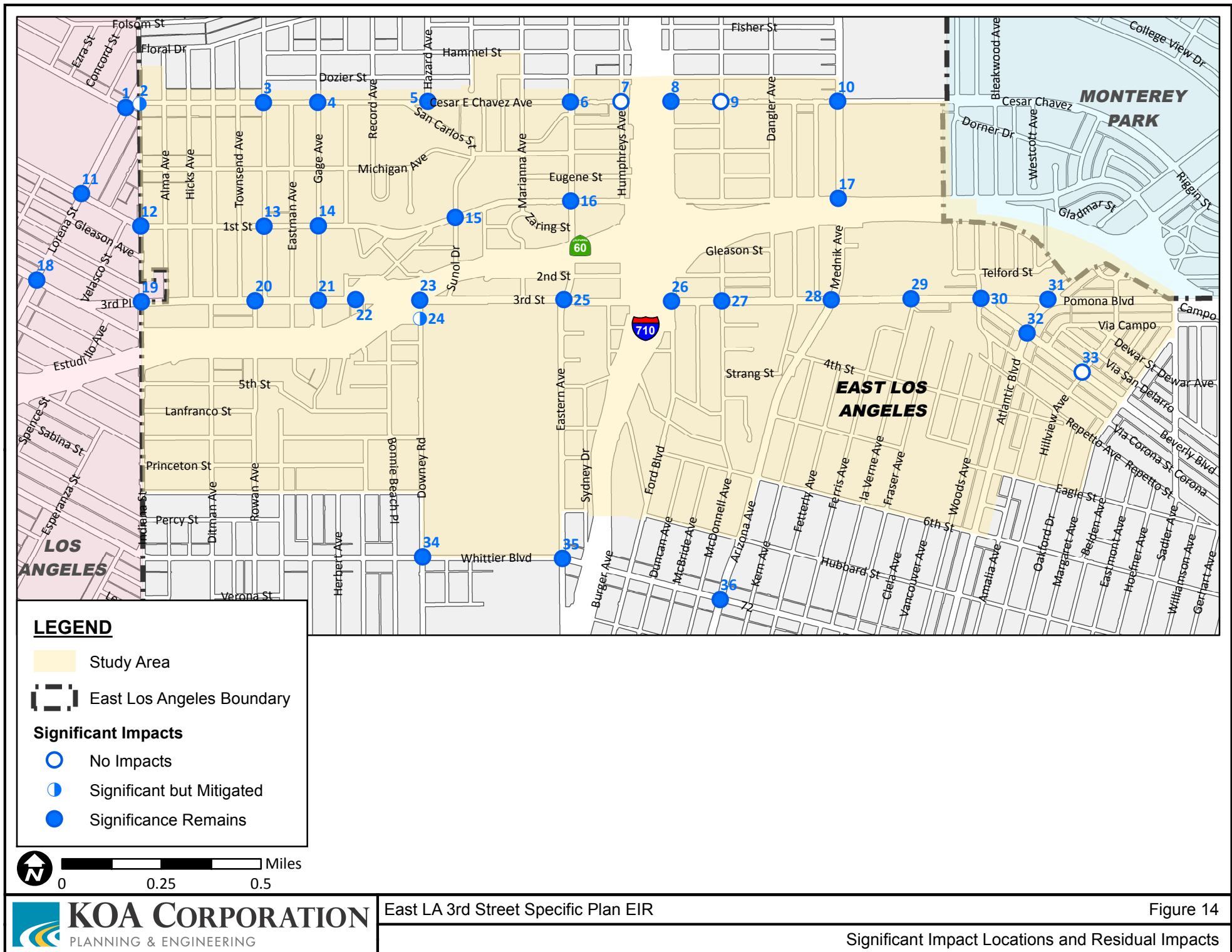
Alternative Mitigation

For the residual impacts, physical mitigation measures (adding through lanes on arterials, adding additional lanes to north-south roadways, adding turn lanes) were not considered feasible within the scope of the proposed Land Use Plan. Such measures could compromise the ability to develop small commercial parcels by requiring additional land to be provided for public right-of-way.

It is recommended that the Department of Regional Planning and the Department of Public Works provide for broader latitude of traffic study mitigation measures for the Specific Plan area, than those currently allowed under the current traffic impact study guidelines. Developments that meet current thresholds for requiring traffic study submittals as part of entitlements should be analyzed against multiple thresholds that incorporate vehicle trips impacts, pedestrian and bicycle travel quality impacts, and in some cases transit service quality impacts as well. The latter should be considered for larger projects on major transit corridors where stops/stations for Bus Rapid Transit or light rail transit services are within a one-quarter of a mile walking distance.

The following travel modes should be considered, to allow for more flexibility in the types of mitigation measures that could be applied as traffic mitigation:

- **Pedestrian LOS:** Based on sensitivity to motor vehicle speed/volume, outside lane width, sidewalk width, parking occupancy, street tree spacing, travel speed and sidewalk space
- **Bicycle LOS:** Based on travel speeds, roadway link quality intersection delays
- **Transit LOS:** Service quality for passengers (wait/ride time), changes in speed/capacity, technological changes (vehicles, fare collection, etc.)



D. Mitigation Relationship to Other Plans, Transit Systems

This section discussed other travel mode improvements within and near to the Specific Plan area, and how future development mitigation measures could complement or directly support the related plans and project implementation efforts.

Metro Gold Line Light Rail

The Metro Gold Line Eastside Extension from Union Station to East Los Angeles opened in 2009. A planned extension of the Metro Gold Line further to the east, with a new terminus at either El Monte Station or Uptown Whittier, is currently under study.

The completion of the first phase of the Eastside Extension to Atlantic Boulevard in East Los Angeles has provided new opportunities for study area residents and employees to make local and regional trips via transit. For discretionary riders (those that own vehicles but choose to take transit for specific trips), new trips on the existing Gold Line and the pending extension that are diverted from personal vehicles will help to reduce demand on the roadway system.

This new transit service, and other incremental transit service improvements into the future, will provide new trip mode choices and will offset some of the new demand for vehicle trips generated by the intensification of land uses over time within East Los Angeles and the surrounding areas. Future traffic counts may show this trend in some areas near the Gold Line stations within the Specific Plan area. Future development can also support the light rail extension by providing for related bus transit stop improvements and pedestrian connections, beyond those implemented directly by Metro.

El Sol Shuttle Bus

The El Sol Shuttle, or East Los Angeles Shuttle, operates within a bi-directional loop route within the East Los Angeles community, linking to a timed transfer point at the East Los Angeles Civic Center where all three shuttle lines meet. The Shuttle does not provide direct routes along each of the major area roadway corridors, but is made to serve multiple points on a highly-differentiated route, with the drawback of operating at an overall lower travel speed than a direct route would

Metro local bus transit routes do serve direct routes on Cesar Chavez Avenue, 1st Street, and Whittier Boulevard (a Rapid Bus line), providing these more direct connections within the area. Future improvements to, or new lines, within the El Sol service route network, could provide lower-fare local trips between local points at faster travel times. A funding mechanism for new transit capital and operating expansions, if provided for, could be a source of mitigation for future development.

Metro Gold Line Eastside Access Project

Within close vicinity of station sites at the west end of the Specific Plan area, Metro is beginning implementation of the Eastside Access Project, improving pedestrian, bicycle, and connecting transit linkages. Metro and the City of Los Angeles are partners on this project to improve pedestrian and bicycle access around four of the Eastside station areas, including Indiana Station that is located on the western border of the Specific Plan area.

Future development projects could build upon these improvements, extending the improved pedestrian

networks, or providing the same improvements at other stations further to the east.

Bicycle Network Implementation

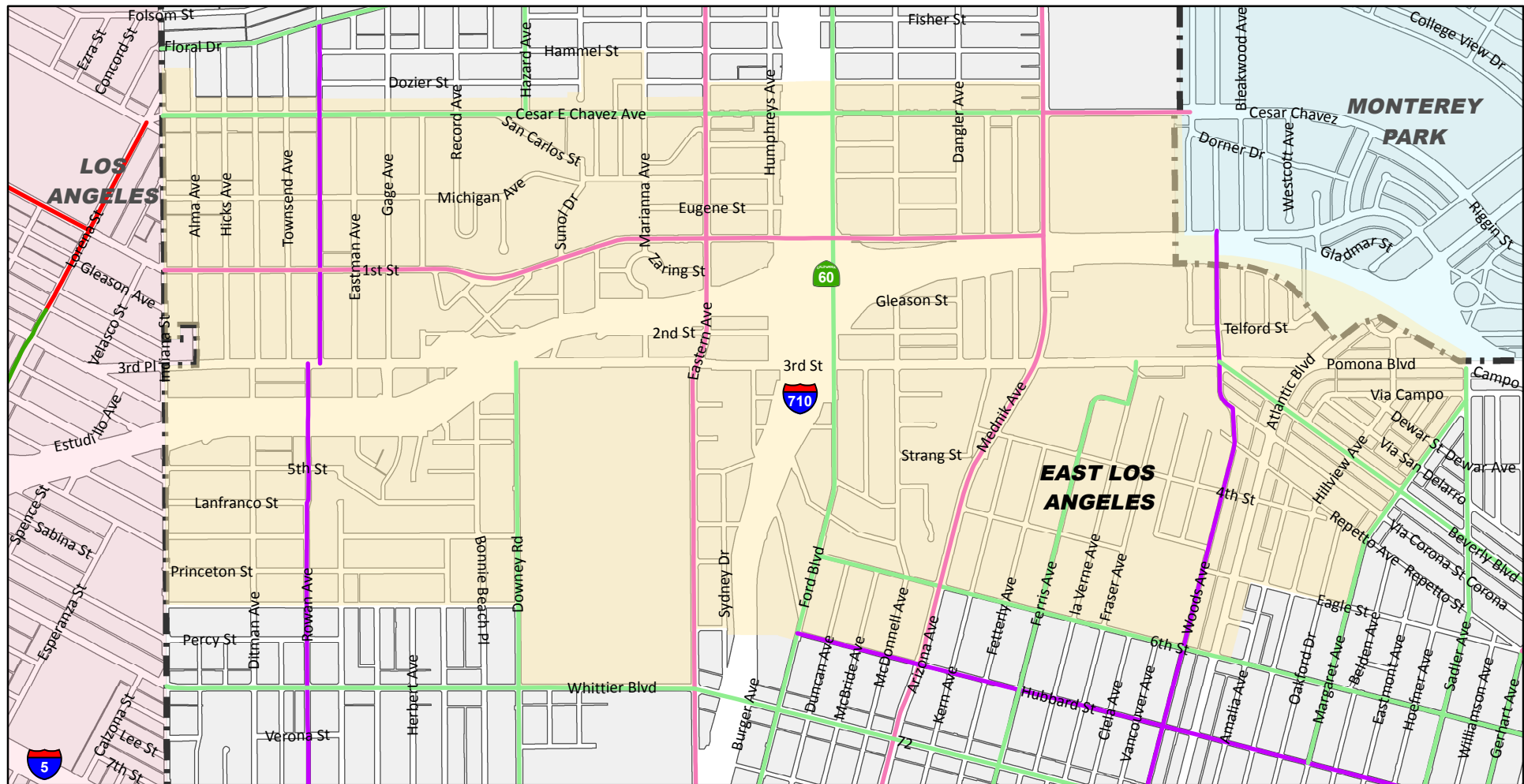
Implementation of the planned bicycle facility network within East Los Angeles, with expanding linkages to existing facilities such as the 1st Street east-west bicycle lane (connecting to downtown Los Angeles with a western segment as a bike boulevard), will also help to provide another mode choice for local and sub-regional trips. An increasing number of trips made by bicycle, as the local network expands and matures, will offset vehicle trips on the local roadway network.

Future roadway improvements will need to consider Complete Streets concepts, and provide new bicycle facilities as they are physically feasible. The proposed County bicycle facilities for the area include bicycle lanes on 1st Street between Indiana Street and the Arizona Avenue/Mednik Avenue corridor, on Eastern Avenue to the north of Olympic Boulevard, on Arizona Avenue/Mednik Avenue between Olympic Boulevard and Floral Drive, and on Cesar E. Chavez Avenue within the Civic Center area. Bike Boulevards (shared-lane facilities) are also proposed on Rowan Avenue and Woods Avenue.

Existing and proposed bicycle facilities within the study area are illustrated on Figure 153.

Future project mitigation measures can assist in implementing these facilities, and improving the future network such as completing the gap in planned facilities between the existing City and planned County facilities on 1st Street, west of Indiana Street.

Mitigation measures for new projects can complement or add to previous modal travel improvements in the area, or directly support planned projects and plans.



LEGEND

Study Area

East Los Angeles Boundary

Existing Bikeways

Bike Lane

Bike Route

County Planned Bikeways

Bike Lane

Bike Route

Bike Boulevard



0 0.25 0.5 Miles

E. Freeway Interchange Ramp and Mainline Operations

Potential freeway facility impacts were also considered per Caltrans traffic study guidelines. Existing volumes were compiled from Caltrans data, via AADT (Average Annual Daily Traffic) data reports from 2012. The year 2012 is the most recent available data summarized by Caltrans.

The volumes for this analysis are indicated by bold text under the “Back Peak Hour” and “Ahead Peak Hour” headings in Table 13 (for the SR-60 facility) and in Table 14 (for the I-710 facility).

The “back” and “ahead” labels refer to the direction on the freeway facility from the analyzed location. Per Caltrans definitions for data collection and analysis, the following definitions apply, in relation to the overall facility direction of travel within the region:

- SR-60 facility – Back volumes are further west and Ahead volumes are further east
- I-710 facility – Back volumes are further south and Ahead volumes are further north

**Table 12 – Caltrans Volume Data
for SR-60 in Vicinity of Project**

Rte	Post Mile	Location	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak month	Ahead AADT
60	1.475	LOS ANGELES, LORENA STREET	12900	197000	189000	13100	199000	192000
60	1.936	LOS ANGELES, INDIANA STREET	13100	199000	192000	14400	214000	205000
60	2.592	THIRD STREET/DOWNEY ROAD	14400	214000	205000	14200	218000	210000
60	3.27	JCT. RTE. 710	14200	218000	210000	16900	251000	243000
60	4.426	MONTEREY PARK, ATLANTIC BLVD	16900	251000	243000	16300	242000	235000

**Table 13 – Caltrans Volume Data
for I-710 in Vicinity of Project**

Rte	Post Mile	Location	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak month	Ahead AADT
710	23.77	WHITTIER BOULEVARD	13600	180000	174000	15000	195000	189000
710	24.627	JCT. RTE. 60	15000	195000	189000	10200	131000	127000

Growth factors used within the primary traffic impact analysis were utilized here to increase the existing SR-60 volumes from the year 2011 to the area buildout-year of 2035. The buildout year for the regional traffic model is 2035, and Caltrans review of freeway facility impacts is usually the model buildout year.

The annual growth rate applied to the analysis of the study intersection was compounded for the 23-year period between existing year-2012 and future year-2035 conditions, with a resulting factor of 1.173. As the Caltrans base AADT volumes are from the year 2012, the growth factor applied to these volumes was adjusted to a 23-year period, with a resulting factor of 1.182.

The resulting buildout volume calculations for nearby mainline freeway segments – two on the SR-60 and two on the I-710 – were applied to the mainline operations analysis summarized within the next report sub-section.

Freeway Mainline Highway Capacity Manual Analysis

A freeway mainline level of service calculation was conducted, using the Highway Capacity Manual (HCM) methodology, which is defined for analysis by Caltrans traffic study guidelines. Caltrans-published mainline AADT volumes, peak hour factors, and directional proportion of flow, were all used as inputs.

Table 15 summarizes the results of this analysis, for mainline segments on the SR-60 facility at the north south ends of the Specific Plan area, and for mainline segments on the I-710 facility at the north and south ends.

**Table 14 – SR-60 and I-710 Mainline
Daily LOS Calculations**

Freeway Mainline Location	Future 2035 Baseline Pre-Project Conditions			Future 2035 with Land Use Plan Conditions		
	Flow Rate (pc/h/ln)	Density (pc/mi/ln)	LOS	Flow Rate (pc/h/ln)	Density (pc/mi/ln)	LOS
SR-60, Back of Lorena	1,188	18.3	C	1,277	19.6	C
SR-60, Ahead of Atlantic	1,684	25.0	C	1,704	25.4	C
I-710, Ahead of SR-60 *	1,393	21.4	C	1,509	23.3	C
I-710, Back of Whittier Blvd	1,488	22.9	C	1,613	25.1	C

Note: density not reported when free-flow speed is computed to be low.

Project volumes were analyzed to the north of Floral, but AADT was applied as north of SR-60, to be conservative.

All freeway segments, under a planning-scenario analysis for daily volumes, operate at LOS C. Without local interchanges and weaving areas, the freeway travel lane capacity is adequate.

The Highway Capacity Software analysis worksheets for the freeway mainline analysis are provided in Appendix F.

Freeway Interchange Intersection Highway Capacity Manual Analysis

Table 16 provides a summary of HCM-based analysis, defined for analysis by Caltrans traffic study guidelines, that was conducted for the study intersections that are freeway interchange ramp intersections. This analysis was conducted by applying this analysis methodology to the analysis conducted for future year-2035 pre-Project and post-Project conditions.

The results indicate that all of the analyzed locations would worsen to LOS E or F during peak hours, using the applied operations methodology.

**Table 15 – Freeway Ramp Intersection
Highway Capacity Manual Analysis**

Freeway Ramp Study Intersections		Peak Hour	Future 2035 Pre-Project Conditions			Future 2035 Post-Project Conditions		
			HCM Delay	LOS	Off-Ramp Queue	HCM Delay	LOS	Queue
21	Gage Ave & 3rd St	AM	24.0 sec.	C	N/A	67.4 sec.	E	N/A
		PM	17.5 sec.	B	N/A	184.6 sec.	F	N/A
22	SR-60 WB On/Off Ramps & 3rd St	AM	23.1 sec.	C	510 ft.	35.8 sec.	D	830 ft.
		PM	26.2 sec.	C	565 ft.	117.1 sec.	F	1098 ft.
24	Downey Rd & SR-60 EB Off Ramp *	AM	12.7 sec.	B	33 ft.	20.8 sec.	C	90 ft.
		PM	45.2 sec.	E	380 ft.	>200 sec.	F	1625 ft.

V/C = Volume to Capacity Ratio, LOS = Level Of Service

Note: The HCM unsignalized methodology was applied at all three locations, with LOS determined by the average delay output in seconds per approaching vehicle.

* Queue length based on 95th percentile output from HCM calculations, based on vehicles, multiplied by 25-foot on center distance.

** Analysis program did not determine LOS, due to overflow at upper limit within calculations.

The following study intersections at freeway ramps would worsen to LOS E or F with implementation of development permitted under the proposed Land use Plan:

- Gage Avenue/3rd Street – Would worsen from LOS C to E in the a.m. peak hour and from LOS B to F in the p.m. peak hour.
- SR-60 Westbound On/Off Ramps/3rd Street – Would worsen from LOS C to F in the p.m. peak hour.
- Downey Road/SR-60 Eastbound Off-Ramp – Would worsen from LOS E to F in the p.m. peak hour.

Identified significant impacts at the intersection of Downey Road/SR-60 Eastbound Off-Ramp, per County guidelines, would be mitigated to a level of insignificance. Future signal synchronization projects and other traffic signal upgrades in the future within the 3rd Street corridor could mitigate the identified LOS degradations at these locations. Additional mitigation measures will likely be necessary during the course of development under the proposed Land Use Plan.

The analysis worksheets for the HCM-based interchange ramp intersection analysis are provided in Appendix G.

7. Analysis of Land Use Alternatives

This section evaluates the significant traffic impacts of two alternative land use scenarios envisioned by the County for consideration during the Specific Plan implementation process.

The two land use alternatives are defined as follows.

- Alternative 2 – Changes in land use intensity would only occur within a one-half mile radius of the Metro Gold Line stations, and along the East Cesar E Chavez Avenue and 1st Street corridors within the Specific Plan area.
- Alternate 3 – All of the proposed area land use intensity changes within the Specific Plan area would be reduced by 50 percent.

An Alternative 1 land use scenario is used within the environmental documentation, and is a “no project” scenario. That alternative examines conditions in the future without any changes to the Specific Plan area land use plan or related regulations. For purposes of the traffic analysis, that scenario would be equal to conditions under the future pre-Project scenario.

The impact analysis results are provided in Table 17 (Alternative 2 analysis) and Table 18 (Alternative 3 analysis).

The impacts that would no longer be significant under the Alternative 2 land use plan, by intersection number and name, are as follows:

- 5. Hazard Ave/Cesar Chavez Ave - PM peak - no impacts remaining
- 6. Eastern Ave & Cesar Chavez Ave - PM peak - no impacts remaining
- 10. Mednik Ave/Cesar Chavez Ave - PM peak - no impacts remaining
- 13. Rowan St/1st St - PM peak - no impacts remaining
- 14. Gage Ave/1st St - PM peak - no impacts remaining
- 15. Sunol Dr/1st St - PM peak - no impacts remaining
- 17. Mednik Ave/1st St - PM peak - no impacts remaining
- 18. Lorena St/4th St - PM peak - no impacts remaining
- 20. Rowan St /3rd St - PM peak - no impacts remaining
- 27. McDonnell Ave/3rd St - AM and PM peak - no impacts remaining
- 29. La Verne Ave/3rd St - AM and PM peak - no impacts remaining

Impacts at 22 intersections would remain significant under Alternative 2. The unsignalized intersections of Indiana Street/Cesar Chavez Avenue and could be mitigated with signalization. 20 significant and

unavoidable impacts would then remain after implementation of those mitigation measures.

As compared to Alternative 2, the Alternative 3 land use plan would have one less significant impact, with a significant impact removed at the intersection of Downey Road/3rd Street.

Table 16 – Significant Study Area Traffic Impacts – Alternative 2

Study Intersections	Peak Hour	Existing 2013 Conditions		Future 2035 Pre-Project Conditions		Post-Project-Alternative 2 Conditions		Change in V/C Ratio	Signif Impact?
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS		
1 Brooklyn Pl- Lorena St & Cesar Chavez Ave ***	AM	0.347	A	0.424	A	0.519	A	0.095	No
	PM	0.475	A	0.575	A	0.876	D	0.301	YES
2 Indiana St & Cesar Chavez Ave *	AM	19.3	C	17.7	D	>100 sec.	F	#	YES
	PM	35.3	E	78.5	F	>100 sec.	F	#	YES
3 Rowan St & Cesar Chavez Ave	AM	0.837	D	0.882	D	1.072	F	0.190	YES
	PM	0.836	D	0.881	D	1.278	F	0.397	YES
4 Gage Ave & Cesar Chavez Ave	AM	0.806	D	0.845	D	1.061	F	0.216	YES
	PM	0.756	C	0.787	C	1.301	F	0.514	YES
5 Hazard Ave & Cesar Chavez Ave	AM	0.558	A	0.555	A	0.805	D	0.250	No
	PM	0.488	A	0.472	A	1.110	F	0.638	No
6 Eastern Ave & Cesar Chavez Ave	AM	0.575	A	0.575	A	0.718	C	0.143	No
	PM	0.534	A	0.526	A	0.877	D	0.351	No
7 Humphreys Ave & Cesar Chavez Ave	AM	0.458	A	0.437	A	0.591	A	0.154	No
	PM	0.333	A	0.282	A	0.646	B	0.364	No
8 Ford Blvd & Cesar Chavez Ave	AM	0.779	C	0.814	D	1.007	F	0.193	YES
	PM	0.708	C	0.731	C	1.139	F	0.408	YES
9 McDonnell Ave & Cesar Chavez Ave	AM	0.531	A	0.522	A	0.633	B	0.111	No
	PM	0.445	A	0.422	A	0.679	B	0.257	No
10 Mednik Ave & Cesar Chavez Ave	AM	0.484	A	0.468	A	0.626	B	0.158	No
	PM	0.517	A	0.506	A	0.832	D	0.326	No
11 Lorena St & 1st St ***	AM	0.553	A	0.640	B	0.729	C	0.089	YES
	PM	0.597	A	0.692	B	0.893	D	0.201	YES
12 Indiana St & 1st St ***	AM	0.715	C	0.813	D	0.969	E	0.156	YES
	PM	0.769	C	0.876	D	1.330	F	0.454	YES
13 Rowan St & 1st St	AM	0.440	A	0.516	A	0.863	D	0.347	No
	PM	0.387	A	0.454	A	1.037	F	0.583	No
14 Gage Ave & 1st St	AM	0.528	A	0.619	B	1.003	F	0.384	No
	PM	0.513	A	0.601	B	1.201	F	0.600	No
15 Sunol Dr & 1st St	AM	0.339	A	0.397	A	0.724	C	0.327	No
	PM	0.311	A	0.365	A	0.791	C	0.426	No
16 Eastern Ave & 1st St	AM	0.558	A	0.655	B	1.000	E	0.345	YES
	PM	0.511	A	0.599	A	1.096	F	0.497	YES
17 Mednik Ave & 1st St	AM	0.514	A	0.604	B	0.683	B	0.079	No
	PM	0.554	A	0.650	B	0.851	D	0.201	No
18 Lorena St & 4th St ***	AM	0.317	A	0.389	A	0.413	A	0.024	No
	PM	0.322	A	0.395	A	0.645	B	0.250	No

V/C = Volume to Capacity Ratio, LOS = Level Of Service

* The HCM unsignalized methodology was applied to these locations, with LOS determined by the average delay output in seconds per approaching vehicle.

** HCM signalized methodology, using Synchro program for five-legged intersection.

*** Intersection is located within City of Los Angeles, or on City/County border. Impact standards based on LADOT Traffic Study Guidelines. V/C values at here were reduced by 1.00, based on City plan to provide ATSC/ATCS signal synchronization technology at all signalized intersections by the year 2016.

Significance of impacts at the unsignalized intersections, and the five-legged signalized intersection was determined by worsening to or within LOS E or F, and additional signal warrant information was considered for the unsignalized locations.

Table 17 – Significant Study Area Traffic Impacts – Alternative 2 (continued)

Study Intersections	Peak Hour	Existing 2013 Conditions		Future 2035 Pre-Project Conditions		Post-Project-Alternative 2 Conditions		Change in V/C Ratio	Signif Impact?
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS		
19 Indiana St & 3rd St ***	AM	0.656	B	0.744	C	0.920	E	0.176	YES
	PM	0.690	B	0.783	C	1.131	F	0.348	YES
20 Rowan St & 3rd St	AM	0.537	A	0.630	B	0.908	E	0.278	No
	PM	0.571	A	0.670	B	1.250	F	0.580	No
21 Gage Ave & 3rd St	AM	0.794	C	0.932	E	1.228	F	0.296	YES
	PM	0.644	B	0.756	C	1.337	F	0.581	YES
22 SR-60 WB On/Off Ramps & 3rd St	AM	0.653	B	0.766	C	1.056	F	0.290	YES
	PM	0.630	B	0.739	C	1.222	F	0.483	YES
23 Downey Rd & 3rd St	AM	0.622	B	0.704	C	0.915	E	0.211	YES
	PM	0.764	C	0.871	D	1.179	F	0.308	YES
24 Downey Rd & SR-60 EB Off Ramp *	AM	11.6	B	12.7	B	16.9	C	#	YES
	PM	22.2	C	45.2	E	>100 sec.	F	#	YES
25 Eastern Ave & 3rd St	AM	0.775	C	0.883	D	1.137	F	0.254	YES
	PM	0.943	E	1.081	F	1.500	F	0.419	YES
26 Ford Blvd & 3rd St	AM	0.697	B	0.969	E	1.228	F	0.259	YES
	PM	0.779	C	1.067	F	1.500	F	0.433	YES
27 McDonnell Ave & 3rd St	AM	0.424	A	0.500	A	0.765	C	0.265	No
	PM	0.513	A	0.605	B	1.017	F	0.412	No
28 Mednik Ave & 3rd St	AM	0.692	B	0.967	E	1.173	F	0.206	YES
	PM	0.710	C	0.987	E	1.331	F	0.344	YES
29 La Verne Ave & 3rd St	AM	0.540	A	0.641	B	0.820	D	0.179	No
	PM	0.386	A	0.460	A	0.683	B	0.223	No
30 Beverly Blvd-Woods Ave & 3rd St **	AM	23.3	C	37.2	C	47.5	E	#	YES
	PM	23.3	C	35.2	C	>100 sec.	F	#	YES
31 Atlantic Blvd & 3rd St	AM	0.683	B	0.711	C	1.018	F	0.307	YES
	PM	0.692	B	0.716	C	1.220	F	0.504	YES
32 Atlantic Blvd & Beverly Blvd	AM	0.696	B	0.716	C	0.760	C	0.044	YES
	PM	0.848	D	0.897	D	1.002	F	0.105	YES
33 Hillview Ave & Beverly Blvd	AM	0.441	A	0.520	A	0.563	A	0.043	No
	PM	0.554	A	0.656	B	0.762	C	0.106	No
34 Downey Rd & Whittier Blvd	AM	0.515	A	0.606	B	0.717	C	0.111	No
	PM	0.675	B	0.794	C	1.003	F	0.209	YES
35 Eastern Ave & Whittier Blvd	AM	0.594	A	0.697	B	0.765	C	0.068	No
	PM	0.670	B	0.791	C	0.927	E	0.136	YES
36 Arizona Ave & Whittier Blvd	AM	0.391	A	0.459	A	0.525	A	0.066	No
	PM	0.650	B	0.764	C	0.980	E	0.216	YES

V/C = Volume to Capacity Ratio, LOS = Level Of Service

* The HCM unsignalized methodology was applied to these locations, with LOS determined by the average delay output in seconds per approaching vehicle.

** HCM signalized methodology, using Synchro program for five-legged intersection.

*** Intersection is located within City of Los Angeles, or on City/County border. Impact standards based on LADOT Traffic Study Guidelines. V/C values at here were reduced by 1.00, based on City plan to provide ATSC/ATCS signal synchronization technology at all signalized intersections by the year 2016.

Significance of impacts at the unsignalized intersections, and the five-legged signalized intersection was determined by worsening to or within LOS E or F, and additional signal warrant information was considered for the unsignalized locations.

Table 17 – Significant Study Area Traffic Impacts – Alternative 3

Study Intersections		Peak Hour	Existing 2013 Conditions		Future 2035 Pre-Project Conditions		Post-Project-Alternative 2 Conditions		Change in V/C Ratio	Signif Impact?
			V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS		
1	Brooklyn Pl- Lorena St & Cesar Chavez Ave ***	AM	0.347	A	0.424	A	0.490	A	0.066	No
		PM	0.475	A	0.575	A	0.751	C	0.176	YES
2	Indiana St & Cesar Chavez Ave *	AM	19.3	C	17.7	D	94.5	F	#	YES
		PM	35.3	E	78.5	F	>100 sec.	F	#	YES
3	Rowan St & Cesar Chavez Ave	AM	0.837	D	0.882	D	1.000	E	0.118	YES
		PM	0.836	D	0.881	D	1.149	F	0.268	YES
4	Gage Ave & Cesar Chavez Ave	AM	0.806	D	0.845	D	0.982	E	0.137	YES
		PM	0.756	C	0.787	C	1.126	F	0.339	YES
5	Hazard Ave & Cesar Chavez Ave	AM	0.558	A	0.555	A	0.710	C	0.155	No
		PM	0.488	A	0.472	A	0.939	E	0.467	No
6	Eastern Ave & Cesar Chavez Ave	AM	0.575	A	0.575	A	0.662	B	0.087	No
		PM	0.534	A	0.526	A	0.751	C	0.225	No
7	Humphreys Ave & Cesar Chavez Ave	AM	0.458	A	0.437	A	0.518	A	0.081	No
		PM	0.333	A	0.282	A	0.511	A	0.229	No
8	Ford Blvd & Cesar Chavez Ave	AM	0.779	C	0.814	D	0.931	E	0.117	YES
		PM	0.708	C	0.731	C	1.000	E	0.269	YES
9	McDonnell Ave & Cesar Chavez Ave	AM	0.531	A	0.522	A	0.602	B	0.080	No
		PM	0.445	A	0.422	A	0.621	B	0.199	No
10	Mednik Ave & Cesar Chavez Ave	AM	0.484	A	0.468	A	0.568	A	0.100	No
		PM	0.517	A	0.506	A	0.715	C	0.209	No
11	Lorena St & 1st St ***	AM	0.553	A	0.640	B	0.709	C	0.069	YES
		PM	0.597	A	0.692	B	0.885	D	0.193	YES
12	Indiana St & 1st St ***	AM	0.715	C	0.813	D	0.969	E	0.156	YES
		PM	0.769	C	0.876	D	1.334	F	0.458	YES
13	Rowan St & 1st St	AM	0.440	A	0.516	A	0.830	D	0.314	No
		PM	0.387	A	0.454	A	0.949	E	0.495	No
14	Gage Ave & 1st St	AM	0.528	A	0.619	B	0.954	E	0.335	No
		PM	0.513	A	0.601	B	1.109	F	0.508	No
15	Sunol Dr & 1st St	AM	0.339	A	0.397	A	0.716	C	0.319	No
		PM	0.311	A	0.365	A	0.784	C	0.419	No
16	Eastern Ave & 1st St	AM	0.558	A	0.655	B	1.020	F	0.365	YES
		PM	0.511	A	0.599	A	1.105	F	0.506	YES
17	Mednik Ave & 1st St	AM	0.514	A	0.604	B	0.676	B	0.072	No
		PM	0.554	A	0.650	B	0.802	D	0.152	No
18	Lorena St & 4th St ***	AM	0.317	A	0.389	A	0.406	A	0.017	No
		PM	0.322	A	0.395	A	0.637	B	0.242	No

V/C = Volume to Capacity Ratio, LOS = Level Of Service

* The HCM unsignalized methodology was applied to these locations, with LOS determined by the average delay output in seconds per approaching vehicle.

** HCM signalized methodology, using Synchro program for five-legged intersection.

*** Intersection is located within City of Los Angeles, or on City/County border. Impact standards based on LADOT Traffic Study Guidelines. V/C values at here were reduced by 1.00, based on City plan to provide ATSC/ATCS signal synchronization technology at all signalized intersections by the year 2016.

Significance of impacts at the unsignalized intersections, and the five-legged signalized intersection was determined by worsening to or within LOS E or F, and additional signal warrant information was considered for the unsignalized locations.

Table 18 – Significant Study Area Traffic Impacts – Alternative 3 (continued)

Study Intersections	Peak Hour	Existing 2013 Conditions		Future 2035 Pre-Project Conditions		Post-Project-Alternative 2 Conditions		Change in V/C Ratio	Signif Impact?
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS		
19 Indiana St & 3rd St ***	AM	0.656	B	0.744	C	0.892	D	0.148	YES
	PM	0.690	B	0.783	C	1.131	F	0.348	YES
20 Rowan St & 3rd St	AM	0.537	A	0.630	B	0.871	D	0.241	No
	PM	0.571	A	0.670	B	1.142	F	0.472	No
21 Gage Ave & 3rd St	AM	0.794	C	0.932	E	1.180	F	0.248	YES
	PM	0.644	B	0.756	C	1.296	F	0.540	YES
22 SR-60 WB On/Off Ramps & 3rd St	AM	0.653	B	0.766	C	0.998	E	0.232	YES
	PM	0.630	B	0.739	C	1.155	F	0.416	YES
23 Downey Rd & 3rd St	AM	0.622	B	0.704	C	0.902	E	0.198	No
	PM	0.764	C	0.871	D	1.199	F	0.328	YES
24 Downey Rd & SR-60 EB Off Ramp *	AM	11.6	B	12.7	B	16.7	C	#	YES
	PM	22.2	C	45.2	E	>100 sec.	F	#	YES
25 Eastern Ave & 3rd St	AM	0.775	C	0.883	D	1.105	F	0.222	YES
	PM	0.943	E	1.081	F	1.561	F	0.480	YES
26 Ford Blvd & 3rd St	AM	0.697	B	0.969	E	1.203	F	0.234	YES
	PM	0.779	C	1.067	F	1.532	F	0.465	YES
27 McDonnell Ave & 3rd St	AM	0.424	A	0.500	A	0.746	C	0.246	No
	PM	0.513	A	0.605	B	1.179	F	0.574	No
28 Mednik Ave & 3rd St	AM	0.692	B	0.967	E	1.174	F	0.207	YES
	PM	0.710	C	0.987	E	1.486	F	0.499	YES
29 La Verne Ave & 3rd St	AM	0.540	A	0.641	B	0.820	D	0.179	No
	PM	0.386	A	0.460	A	0.732	C	0.272	No
30 Beverly Blvd-Woods Ave & 3rd St **	AM	23.3	C	37.2	C	42.9	E	#	YES
	PM	23.3	C	35.2	C	>100 sec.	F	#	YES
31 Atlantic Blvd & 3rd St	AM	0.683	B	0.711	C	1.085	F	0.374	YES
	PM	0.692	B	0.716	C	1.226	F	0.510	YES
32 Atlantic Blvd & Beverly Blvd	AM	0.696	B	0.716	C	0.799	C	0.083	YES
	PM	0.848	D	0.897	D	1.126	F	0.229	YES
33 Hillview Ave & Beverly Blvd	AM	0.441	A	0.520	A	0.561	A	0.041	No
	PM	0.554	A	0.656	B	0.762	C	0.106	No
34 Downey Rd & Whittier Blvd	AM	0.515	A	0.606	B	0.714	C	0.108	No
	PM	0.675	B	0.794	C	1.043	F	0.249	YES
35 Eastern Ave & Whittier Blvd	AM	0.594	A	0.697	B	0.776	C	0.079	No
	PM	0.670	B	0.791	C	0.996	E	0.205	YES
36 Arizona Ave & Whittier Blvd	AM	0.391	A	0.459	A	0.552	A	0.093	No
	PM	0.650	B	0.764	C	1.072	F	0.308	YES

V/C = Volume to Capacity Ratio, LOS = Level Of Service

* The HCM unsignalized methodology was applied to these locations, with LOS determined by the average delay output in seconds per approaching vehicle.

** HCM signalized methodology, using Synchro program for five-legged intersection.

*** Intersection is located within City of Los Angeles, or on City/County border. Impact standards based on LADOT Traffic Study Guidelines. V/C values at here were reduced by 1.00, based on City plan to provide ATSC/ATCS signal synchronization technology at all signalized intersections by the year 2016.

Significance of impacts at the unsignalized intersections, and the five-legged signalized intersection was determined by worsening to or within LOS E or F, and additional signal warrant information was considered for the unsignalized locations.

APPENDIX A
Study Intersection Traffic Counts

APPENDIX B
Existing Conditions
Level of Service Worksheets

APPENDIX C
Future (Year 2035) Baseline
Intersection Level of Service Worksheets

APPENDIX D

Calculation of Directional Trip Distribution from CMP

EAST LA SPECIFIC PLAN - JB21206

2035 Trip Distribution - RSA 21

	RSA	Residential		Non-Residential		Distribution		
		Work	Non-Work	Work	Non-Work	Direction	Residential	Commercial
WCovina	26	3.5%	1.3%	4.9%	1.9%	E	3.5%	3.4%
Pomona	27	0.6%	0.1%	0.7%	0.3%	E	0.6%	0.5%
	SB	2.0%	1.3%	2.6%	0.9%	E	2.0%	1.8%
	Riv	0.8%	1.2%	1.1%	0.8%	E	0.8%	1.0%
S.Clarita	8	0.3%	0.2%	0.8%	0.5%	N	0.3%	0.7%
Lancstr	9	0.2%	0.0%	0.5%	0.1%	N	0.2%	0.3%
PalmDle	10	0.2%	0.0%	0.8%	0.3%	N	0.2%	0.6%
AngFrst	11	0.0%	0.0%	0.0%	0.0%	N	0.0%	0.0%
W.SFV	12	1.9%	0.7%	2.4%	0.7%	N	1.9%	1.6%
Burbank	13	1.6%	0.8%	1.5%	0.8%	N	1.6%	1.2%
Sylmar	14	0.7%	0.4%	1.2%	0.5%	N	0.7%	0.9%
DntnLA	23	6.0%	4.2%	2.3%	2.9%	N	6.0%	2.6%
Glendl	24	3.0%	3.3%	5.3%	3.5%	N	3.0%	4.4%
Pasadna	25	4.5%	4.4%	7.3%	5.2%	N	4.5%	6.3%
	Ker	0.1%	0.1%	0.1%	0.1%	N	0.1%	0.1%
Pverdes	19	5.6%	2.7%	3.4%	2.3%	S	5.6%	2.9%
LongBch	20	2.9%	2.6%	3.5%	2.8%	S	2.9%	3.2%
Downey	22	7.5%	6.2%	9.5%	6.9%	S	7.5%	8.2%
	Ora	5.0%	2.9%	4.3%	3.0%	S	5.0%	3.7%
Agoura	7	0.3%	0.1%	0.1%	0.1%	W	0.3%	0.1%
Malibu	15	0.1%	0.1%	0.0%	0.0%	W	0.1%	0.0%
Smonica	16	2.2%	1.1%	1.4%	0.8%	W	2.2%	1.1%
WCntLA	17	8.1%	6.8%	10.5%	7.3%	W	8.1%	8.9%
BchLAX	18	6.0%	4.1%	5.0%	3.5%	W	6.0%	4.3%
	Ven	0.2%	0.2%	0.5%	0.4%	W	0.2%	0.5%
Vernon	21	36.9%	55.1%	30.2%	54.5%		36.9%	42.4%
Total		100.2%	99.9%	99.9%	100.1%		100.2%	100.0%

DISTRIBUTION - without RSA 21

	Residential	Commercial
North	18.5%	18.4%
South	21.0%	17.9%
East	6.9%	6.6%
West	16.9%	14.8%
RSA 21	36.9%	42.4%
TOTAL	1.002	1

DISTRIBUTION - RSA 21

RSA 21	Residential	Commercial
North-20%	7.4%	8.5%
South-40%	14.8%	16.9%
East-10%	3.7%	4.2%
West-30%	11.1%	12.7%
TOTAL	36.9%	42.4%

DISTRIBUTION - with RSA 21

	Residential	Commercial
North	26.0%	27.0%
South	36.0%	35.0%
East	11.0%	11.0%
West	28.0%	28.0%
TOTAL	101.0%	101.0%

APPENDIX E
Future (Year 2035) with-Project
Intersection Level of Service Worksheets

APPENDIX F
Freeway Mainline Segments –
HCM LOS Analysis Worksheets

APPENDIX G
Study Intersections at Freeway Ramps –
HCM LOS Analysis Worksheets
